

November 2, 1998

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Spills Nellenses

# CERTIFIED MAIL - RETURN RECEIPT REQUESTED

RECEIVED

NOV - 3 1998

LAW DEPT

United States Environmental Protection Agency Office of Chemical Emergency Preparedness and Prevention 77 W. Jackson Boulevard (SC-6J) Chicago, Illinois 60604

Attention: Ms. Ruth McNamara

Re: LTV Steel Company, Inc.-Indiana Harbor Works

Request for Information Response

May 13, 1998-Perchloroethylene Release National Response Center Number: 436727

Dear Ms. McNamara:

LTV Steel Company, Inc. (LTV Steel) hereby submits this correspondence and attachment in response to the Request for Information regarding the above-referenced release event.

LTV Steel reported a release of perchloroethylene on May 13, 1998. This release resulted when an LTV Steel contractor experienced an equipment leak while servicing a transformer. Specifically, SUNOHIO was filtering fluids from an Indiana Harbor #2 Tin Mill transformer with a unit called a System 50 Processor. The System 50 Processor contains perchloroethylene as a dielectric fluid. This processor leaked from a crack in a weld on unit's boiler chamber. The perchloroethylene was captured in a containment pan, however, SUNOHIO estimates that approximately 25 gallons was released to the atmosphere through evaporation.

LTV Steel's response to the specific question contained in the Information Request is as attached. Should you have any questions, please do not hesitate to contact me.

Sincerely.

Keith A. Nagel

Manager, Waste Management

Corporate Environmental Control Department

KAN/

Attachment 003531

bcc: M. A. Deren

D. E. Papajcik

M. J. Thomas

W. L. West

# LTV Steel Company, Inc. Information Request Response

Identify all persons consulted in the preparation of the response to this request.

Response: The persons consulted in the preparation of the response to this information request are; M. Deren, K. Nagel, D. Papajcik of LTV Steel and R. Reno of SUNOHIO.

 Identify all documentation consulted, examined, or referred to in the preparation of the response to this request and provide copies of all such documents.

Response: See Exhibit A through G.

3. What is LTV Steel Company's Standard Industrial Classification Code?

Response: LTV Steel Company's Standard Industrial Classification Code is 3312.

4. What is LTV Steel Company's Dun & Bradstreet number?

Response: LTV Steel Company, Inc.'s Dun & Bradstreet number is 095263893 for the East Chicago location.

5. What are LTV Steel Company's annual sales?

Response: LTV Steel Company, Inc. annual sales were approximately \$4.4 billion in 1997.

6. How many employees are employed at LTV Steel Company, 3001 Dickey Road, East Chicago, Indiana?

Response: LTV Steel Company, Inc-Indiana Harbor Works at 3001 Dickey Road, East Chicago, Indiana employs approximately 3,500 employees.

7. How many employees are employed at LTV Steel Company corporate wide?

Response: LTV Steel Company, Inc. employs approximately 15,500 employees.

8. Is LTV Steel Company a RCRA facility? If so, provide the EPA Identification Number.

Response: LTV Steel Company, Inc.-Indiana Harbor Works at 3001 Dickey Road, East Chicago, Indiana is not a RCRA facility.

9. Provide the name and current address of the owner (s) of the property located at 3001 Dickey Rossi, Fast Chicago, Indiana, during the time period of January 1, 1998, to the present.

Response: The LTV Steel Corporation, 200 Public Square, Cleveland, Ohio 44114-2308.

10. Provide the name and address of the operator(s) of the facility located at 3001 Dickey East Chicago, Indiana, during the time period of January 1, 1998 to the present.

Response: LTV Steel Company, Inc. Indiana Harbor Works 3001 Dickey Road, East Chicago, Indiana 46312.

11. Provide a copy of your emergency plan, which outlines the notification procedures for accidental releases at your facility.

Response: A copy of the Indiana Harbor Notification Procedures is provided as Exhibit B.

12. Provide documentation. Regarding the training of your employees on the procedures for notification of accidental releases at your facility.

Response: See Exhibit C.

13. If LTV Steel Company was a corporation during the time period of January 1, 1998 to the present, provide a copy of the Articles of Incorporation.

Response: See Exhibit D.

14. If LTV Steel Company was a subsidiary of a corporation during the time period of January 1, 1998, to the present, identify the parent corporation and provide copies of pertinent documents supporting the subsidiary relationship.

Response: LTV Steel Company, Inc. is a wholly owned subsidiary of the LTV Corporation.

15. If LTV Steel Company was a division of a corporation during the time period of January 1, 1998, to the present, identify the corporation and provide copies of pertinent documents supporting the claim that this company is a corporate divisions.

Response: Not Applicable.

16. If LTV Steel Company was a partnership during the time period of January 1, 1998, to the present, provide a copy of the partnership agreement.

Response: Not Applicable.

17. If LTV Steel Company was a Trust during the time period of January 1, 1998, to the present, provide all relevant agreements and documents to support this claim.

Response: Not Applicable.

18. Describe in detail the process that produced the release of a hazardous substance which occurred on May 13, 1998.

Response: The processor used to filter the Indiana Harbor Tin Mill number 46 transformer fluids developed a leak which resulted in a release of perchloroethylene to the environment by way of evaporation. See Exhibit E.

19. Describe in detail the chain of events that produced the release of a hazardous substance, which occurred on May 13, 1998.

Response: SunOhio's System 50 Processor developed a crack in a weld of the boiler chamber. The leaking perchloroethylene was captured in a containment pan. It is estimated that approximately 25 gallons was released to the atmosphere through evaporation. See Exhibit E.

 Identify each hazardous substance released on May 13, 1998, and its Chemical Abstract Service (CAS) number.

Response: The Chemical Abstract Service number for perchloroethylene is 127-18-4.

21. How much of each hazardous substance was released? Describe your method or source of information in calculating the quantity released and provide the calculation.

Response: It was estimated that that 400 pounds of perchloroethylene evaporated. At a specific gravity of 1.63 and a release of 25 gallons, the release would have been 342 pounds. See Exhibit E.

22. Describe the surfaces on or to which each hazardous substance was released and how much was released to each surface. Describe your method or source of information in calculating the quantity and provide the calculations.

Response: The total amount released evaporated from a containment pan. See Exhibit E.

23. How much of each hazardous substance was released or migrated onto and/or into the soil and/or the subsurface strata? Describe your method or source of information in calculating the quantity and provide the calculations.

Response: The released occurred as the result of evaporated from a containment pan. There was no release to environmental media other than to atmosphere. See Exhibit E.

24. How much of each hazardous substance volatilized? Describe your method or source of information in calculating the quantity and provide the calculations.

Response: All of the perchloroethylene volatilized-see the calculations provided in response to question 21.

25. How much of each hazardous substance was discharged into the sanitary sewer system? If any, describe the pretreatment conducted by your facility. Describe your method or source of information in calculating the quantity and provide the calculations.

Response: All of the perchloroethylene volatilized from a containment pan. There was no release to any sanitary sewer systems. See Exhibit E.

26. How much of each hazardous substance was discharged into the storm system? Describe your method or source of information in calculating the quantity and provide the calculations.

Response: All of the perchloroethylene volatilized from a containment pan. There was no release to any storm sewer systems. See Exhibit E.

27. Did the hazardous substance(s) react with any substance to cause a by-product? If so, explain and provide the calculations to show the reaction and quantity of each by-product released.

Response: The hazardous substance did not react with any substance to cause a by-product.

28. What was the concentration of each hazardous substance? Describe your method or source of information in determining the concentration.

Response: Not Applicable, the release only involved perchloroethylene.

Provide copies of any and all relevant descriptions of each hazardous substance(s) released, i.e.,
 Material Safety Data Sheet (MSDS), Manifest, Analytical Data, etc.

Response: See Exhibit F.

30. Provide the RCRA identification number for each hazardous substance released, if one exists.

Response: Not Applicable.

31. Provide the results of any and all analyses, including but not limited to sample results, that were collected regarding this release.

Response: All of the perchloroethylene volatilized from a containment pan. There was no release to any storm sewer systems. See Exhibit E.

32. Describe in detail the actions that were conducted by your employees and/or anyone else regarding the emergency response to this release, including any and all chemicals used, the handling or clean-up of the substance, including transportation and destination.

Response: The values connecting the processor to the transformer were closed. See Exhibit A.

33. Was the release contained solely within a building or structure? If so, explain.

<u>Response</u>: The leaking perchloroethylene was contained within a containment pan and evaporated to the atmosphere. See Exhibit A.

34. Did any of the substance(s) released migrate beyond your facility' boundaries? If so, explain.

<u>Response</u>: The perchloroethylene evaporated to the atmosphere and as such migrated beyond the facility.

35. Provide copies of any permits that cover this release, and provide an explanation of why you believe this release is covered by this permit.

Response: Not applicable, this was not a permitted release.

- 36. If the release was to a containment area, please respond to the following Information Requests:
  - (a) What is the containment area made of?
  - (b) What are the dimensions of the containment area?
  - (c) Did the containment area contain a neutralization agent? If so, what and how much of the neutralization agent was present?

Response: The entire amount of the release evaporated.

37. Provide a diagram, of your facility in relation to each of the facility's boundaries, north, east, south, west, and identify the distance between the point of the release and each facility boundary.

Response: See Exhibit G.

- 37. If the release was from a storage area, i.e., tanker, storage tank, etc., provide the following information:
  - (a) Location of the tank or. storage area, inside or outside of a building, ground level, one story up, etc.
  - (b) Location of the leak in relation to the tank or storage area, i.e., top left side, center top, center side, etc.
  - (c) Size of the hole from which the leak occurred.
  - (d) Length of tank or storage area.
  - (e) Diameter of tank or storage area.
  - (f) Duration of the release.

Response: Not Applicable.

39. Provide the weather conditions at the time of the release including the temperature, humidity, wind speed and direction, precipitation, sunny/cloudy, and barometric conditions.

Response: Mostly fair, southerly wind at less than 10 mph, 60 °F temperature.

40. Was the release from a pressurized system? If so, explain and provide the amount of pressure in Pounds per square inch (psi).

Response: Not Applicable.

41. If all of the perchloroethylene in the system was not released on May 13, 1998, how much perchloroethylene was in the system at the time of the release, and how much perchloroethylene was left in the system after mitigation of the release?

Response: It is estimated that 25 gallons was released over an undetermined amount of time.

42. Was the release from a process pipe, a pipe connection to a tank, or a tank? If none of these apply, explain exactly where the release occurred.

Response: This processor leaked from a crack in a weld on unit's boiler chamber.

43. If the release was from a process pipe or a pipe connected to a tank, provide the dimensions of the piping.

Response: Not Applicable.

44. Were there any evacuations, hospitalizations and/or deaths associated with this release? If so, describe in detail.

Response: There were no evacuations, hospitalizations and/or deaths associated with this release.

45. Was there any known environmental damage i.e., fish kills, vegetation damage associated with this release? If so, describe in detail.

<u>Response</u>: There was no known environmental damage i.e., fish kills, vegetation damage associated with this release.

46. Provide both the date and time when you first realized that a hazardous substance was released from your facility on May 13, 1998.

Response: May 13, 1998; at 13:15.

47. Provide both the date and time when you first had knowledge that a reportable quantity (RQ) of a hazardous substance(s) was released from your facility on May 13, 1998.

Response: May 13, 1998; at 15:30.

48. Did LTV Steel Company notify the National Response center regarding the May 13, 1998, release? If so, provide the name of the individual who provided the notification, the agency notified, and the date and time of each call.

Response: M. Deren notified The National Response Center on May 13, 1998 at 15:58. See Exhibit A.

49. Did LTV Steel Company notify the Indiana State Emergency Response Commission regarding the May 13, 1998, release? If so, provide the name of the individual who provided the notification, the agency notified, and the date and time of each call.

Response: M. Deren notified The State of Indiana (IDEM) on May 13, 1998 at 1602. See Exhibit
A.

50. Did LTV Steel Company notify the Lake County Local Emergency Planing Committee regarding the May 13, 1998, release? If so, provide the name of the individual who provided the notification, the agency notified, and the date and time of each call.

Response: The Lake County Local Emergency Planing Committee was notified by M. Deren on May 13, 1998 at 1615. See Exhibit A.

51. Did LTV Steel Company provide a written follow-up emergency notice to the Indiana State Emergency Response Commission, as required by EPCRA Section 304(C), 42 U.S.C. S 11004(c)? If so, provide documentation to support your claim.

Response: The written follow-up was provided as required, see Exhibit A.

52. Did LTV Steel Company provide a written follow-up emergency notice to the Lake County Local Emergency Planing Committee, as required by EPCRA Section 304(C), 42 U.S.C. S 11004(c)? If so, provide documentation to support your claim.

Response: The written follow-up was provided as required, see Exhibit A.

EXHIBIT A



Mr. Jason Sewell
Office of Emergency Response
Indiana Department of Environmental Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

Mr. William Timmer
Emergency Coordinator
Lake County Local Emergency
Planning Commission
2293 North Main Street
Crown Point, IN 46307

Re: Incident Number 9805087 - LTV Steel Company

Dear Sirs:

This is a follow-up to our telephone call on May 13, 1998 regarding the above referenced incident. A completed emergency release follow-up notice reporting form (Section 304) for Title III releases is enclosed for your records.

If you have any further questions in this matter, please contact me,

Very truly yours,

LTV STEEL COMPANY

Michael A. Deren

Environmental Coordinator - SARA Compliance, Flat Roll West Safety & Environmental Services

Indiana Harbor Works

MAD:mz file enclosure



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# WORK SHEET EMERGENCY RELEASE NOTIFICATION

# ENIERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW

This reporting is applicable ONLY for the release of a Reportable Quantity of any "EXTREMELY HAZARDOUS SUBSTANCE" or a CERCLA HAZARDOUS SUBSTANCE which results in exposure to persons OUTSIDE the site boundaries. The following information is for the State 10cal Title III agencies and is to be reported
site boundaries. The following information is known at the time.  without delay to the extent the information is known at the time.
LOCAL EMERGENCY RESPONSE AGENCY: W. TIMMER PHONE: 219-743-43
STATE COMMISSION: JASEN SALEN PHONE 1-885-233-7.
LOCAL COMMITTEE: PHONE:
NATIONAL RESPONSE CENTER CERCLA 40 CFR 302.6): PHONE: (800) 424-880  RUDHERFORD - 4436-72
RELEASE INFORMATION
THE REPORT WITH ONE OR THE OTHER OF THESE PREFACES:
chemical release in progress and request emergency response from fire and other agencies accordance with prior plans. The emergency release includes a Title III (choose one) "Extrem Hazardous Substance" or a Superfund (CERCLA) Hazardous Substance." The follow-information is available: (read numbers 1 through 10 below).
OR .
information only, in compliance with Title III reporting requirements. We have had a report release but we do not believe it warrants an emergency response. The following information available: (read numbers I through 10 below).
P-121 12 CAS# 127-18-
1. CHEMICAL NAME OF SUBSTANCE RELEASED PERCHARGEMALESE CAST 127-18-
2. QUANTITY RELEASED (LB)
3. DATE OF RELEASE EST. 5/11/98
TIME OF RELEASE 1:150m

# EMERGENCY RELEASE INFORMATION (continued):

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	8.	ADVICE ON MEDICAL ATTENTION FOR EXPOSED INDIVIDUALS (IF APPROPRIATE)
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	9.	PROPER PRECAUTIONS TO TAKE (INCLUDING EVACUATION IF APPROPRIATE):
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•	10	. NAME AND PHONE NO. OF PERSON TO CONTACT FOR FURTHER INFORMATION:
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		LOCAL RESPONSE AGENCY: DATE 5/13 TIME NAME M. TIMELER STATE COMMISSION: DATE 5/13 TIME NAME 1 SEWELL
		LOCAL COMMITTEE: DATE TIME NAME
		NRC (IF APPROPRIATE): DATE 5/13 TIME NAME KUTHERFURL
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EMERGENCY RELE	(914-11			
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3001 Dickey Road, I	ast GHICARU		(719) 391-	
Name & Phone of Emergency Co	nted at Pacility: MI	chael A. Deren	1719. 351	
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	: (2) Bress Emergence	Planning Committee	5/13/98 4:1	5_2000
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Chemical Name (or Trade Name	L CAS Number:	MODEL IN COLUMN	FR No	
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submitted information is true, accura	rie, and ecomplete.	Digratus of Reporting	1 Blen	2/1/19
Reporting Facility Representath	on (notes) Mi	chael A. Derer		V-10-17-17-17-17-17
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PAGE \_ OF \_

EVENTSDOC

# INDIANA HARBOR WORKS SAFETY AND ENVIRONMENTAL SERVICES PRELIMINARY REPORT OF EVENTS

DATE: 5/14/98	TIME:	7:15 A.M.
REPORT ISSUED BY:	EREN	
TO: RJH, TKW, DJP, RLP, RNM, and B. CAM PEGLL, W. W.	d AFFECTED MANAG	ERS-J. KEMAN
THE NATIONAL RESPONSE C	ENTER & I DEM	<u>VERE NOTIFIED</u>
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MAY 14 '98 81:16PM LTV LINE SHOP

P. 1

9/14/98

# TRANSFORMER LEAK REPORT

TO: Mike Deren

Environmental Services

IHW

FROM: William Lepak
Utilities Electrical Testing
IHW

Mike, the following is an account of events for transformer #46 at #2 Tin Mill Electrolytic sub starting on Monday afternoon 5/11/98.

- 1) Monday at approximately 13:15 Mike Claar a turn supervisor from the Tin Mill called to our office to report that a transformer was leaking in the Electrolytic sub.
- 2) Monday at approximately 14:15 we entered the sub and found transformer 46 leaking from an ENSR (SUNOHIO) retrofill unit.

  The leak was contained by the drip pan that the unit was placed in precisely for this purpose. The drip pan was about half full.
- We (Bob Miller and myself) proceeded to turn power off of the unit and close all the valves for the lines between the unit and the transformer #46 in order to eliminate the possibility of overflowing the drip pan.
- 4) At approximately 15:00 on Monday I called Brennan Lyons in order to notify ENSR (SUNOHIO) about the leak.
- 5) On Tuesday 5/12/98 at approximately 18:00 HNSR (SUNOHIO) technicians arrived at #2 Tin Mill Electrolytic Sub to Service their retrofill unit.

c.c. J. Kenning

B. Lyons

EXHIBIT B

# ENVIRONMENTAL INCIDENT REPORTING

# RELEASE/SPILL/MALFUNCTION/BREAKDOWN NOTIFICATION PROCEDURES

# INDIANA HARBOR WORKS

# \*\* OPERATING DEPARTMENT \*\* NORMAL WORK DAYS (MONDAY-FRIDAY) 7:00 A.M. TO 4:00 P.M. CALL

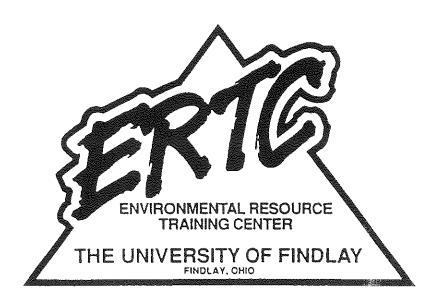
MICHAEL J. THOMAS AREA MANAGER, ENVIRONMENTAL SERVICES SAFETY & ENVIRONMENTAL SERVICES DEPT. WORK: (SAM) 428-2840 OR MICHAEL A. DEREN JAMES W. FLANNERY BRUCE L. PICCIRILLO ALAN H. CROSS ENVIRONMENTAL ENGR. ENVIRONMENTAL ENGR. ENVIRONMENTAL ENGR. ENVIRONMENTAL ENGR. EXT. 3162 EXT. 2571 EXT. 2853 EXT. 2330 OR. RON P. CALLIHAN MANAGER, SAFETY & ENVIRONMENTAL SERVICES EXT. 2305 OR OFF TURNS AND WEEKENDS CALL

BEEPER NUMBER FROM INDIANA HARBOR WORKS: Dial 9-738-9608 and leave a message on the recorder and a phone number where you can be reached. Your call will be returned by the on-duty Environmental Engineer.

MJT:mz (Revision 5/13/98) (ENVINCI.DOC)

# L.T.V. STEEL

# REGULATIONS OVERVIEW WORKSHOP



# LTV REGULATIONS OVERVIEW TABLE OF CONTENTS

TOPIC	SECTION NO.
Introduction to Environmental Regulations	1
Environmental Training Program	2
Environmental Policy & Implementation Strategy	3
Resource Conservation & Recovery Act (RCRA)	g.
Comprehensive Environmental Response Compensation Liability Act (CERCLA)	5
Superfund Amendments and Reauthorization Act (SARA)	Ó
Pollution Prevention	7
Release Reporting	8
Toxic Substances Control Act (TSCA)	9
Clean Air Act (CAA)	10
Clean Water Act (CWA)	density desired
Penalty Statues	3 #3

# CHART POTENTIAL FEDERAL ENVIRONMENTAL REPORTING/NOTIFICATION REQUIREMENTS [see fa. 1]

# FEDERAL

Reportable Substances/ Quantities As established by rule and by statute [see fn. 2]	HW as defined at 42 U.S.C. § 9601(14)(C)
How to Report To NRC [(800) 424-8802] (42 U.S.C. § 9603(a))	To EPA Administrator (42 U.S.C. § 9603(c))
Who Must Report Person in charge of vessel or facility as soon as he has knowledge of release (42 U.S.C. § 9603(a))	Current O/O; O/O at time of disposal; or any person who accepted HW for transport and selected a HW facility without interim status or a permit under RCRA. By June 9, 1981 (42 U.S.C.
Reportable Event (1) Any release of a HS in excess of established RQ (42 U.S.C. §§ 9602, 9603(a)) [see fn. 2]	(2) Notification of hazardous waste activity (42 U.S.C. § 9603(c))
Statute	CERCLA

Reportable Substances/ Quantities  The baseline for reporting is the RQ established for HS [see fn. 2]	See fn. 4	RQs established by rule and by statute [see fn. 5]	
How to Report  To NRC initially by telephone [(800) 424-8802]; to EPA Regional Office in writing within 30 days; one-time annual written follow-up within 30 days of anniversary of initial written notification; to NRC by telephone and to EPA within 30 days in writing if there is any change in source or composition of release or in submitted information; to NRC as soon as the person in charge of the facility or vessel has knowledge of a statistically significant increase (40 C.F.R.	To NRC [(800) 424-8802] or applicable OSC or Officer in charge of CG unit in the vicinity (33 C.F.R. § 153.203)	To relevant local or state emergency response personnel (40 C.F.R. § 355.40(b))	perce
Who Must Report Person in charge of vessel or facility initially, annual confirmation, whenever a change occurs and immediately when there is a statistically significant increase (42 U.S.C. § 9603(f); 40 C.F.R. § 302.8(c))	Person in charge of vessel or facility as soon as he has knowledge of discharge (33 U.S.C. § 1321(b)(5))	O/O of the regulated facility, immediately with follow-up written notice as soon as practicable (40 C.F.R. § 355.40(a) and (b))	
Reportable Event (3) Any "continuous" release (42 U.S.C. § 9603(f))	Discharge of any HQ of oil or 11S into or upon navigable waters, adjoining shorelines or into or upon contiguous zone (33 U.S.C. § 1321(b)(5)) [see fn. 4]	Any release of an EHS or HS in excess of established RQ which results in exposure to persons outside the boundaries of the regulated facility (40 C.F.R. § 355.40(a)) [see fn. 5]	
Statute	CWA	EPCRA (SARA Title III)	

Reportable Substances/ Quantities Depending on situation, all HM may be subject to reporting [see fn. 6]	Depending on situation, all HM may be subject to reporting as is any quantity of HW fee, for 6	and fn. 7] USTs storing regulated substance [see fn. 8]
How to Report  To NRC [(800) 424-8802] and DOT by telephone; to RSPA in writing (49 C.F.R. §§ 171.15 and 171.16)	To RSPA in writing (49 C.F.R. § 171.16(b))	To the appropriate state agency or department (40 C.F.R. § 280.3 and Part 280, Appx. II)
Who Must Report  Carrier, at the carliest practicable moment after incident occurs, and in writing within 30 days (49 C.F.R. \$171.15 and 171.16)	Carrier, within 30 days (49 C.F.R. § 171.16(a))	Owner of UST, by May 8, 1986 or within 30 days of bringing a tank into use (40 C.F.R. § 280.3)
Reportable Event  (1) Any incident in which as a direct result of HM transportation: (i) a person is killed or injured requiring hospitalization; (ii) property damage exceeds \$50,000; (iii) an evacuation of the public lasting at least one hour occurs; (iv) a major transportation artery or facility is shut down for one hour or more; (v) the flight pattern or routine of an aircraft is altered; (vi) fire, breakage, spillage or contamination involving radioactive materials or etiologic agents occurs; (vii) a situation occurs which, in the judgment of the carrier, is serious (49 C.F.R.	(2) Unintentional release of HM from a package, including tanks, or discharge of any quantity of HW (49 C.F.R. § 171.16(a)) [see fn. 7]	(1) Notification of USTs (i) currently in usc, (ii) formerly in use and not removed, or (iii) to be brought into use (40 C.F.R. § 280.3)
Statute HMTA	НМТА	RCRA

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Reportable Substances/ Quantities	HS equalling or exceeding an RQ; petroleum in excess of 25 gallons or other reasonable amount specified by the implementing agency (40 C.F.R. § 280.53) [see fn. 8 and fn. 2]	Any PCB spill in excess of 50 ppm (40 C.F.R. \$ 761.125) [see fn. 9]	PCB wastes subject to storage and disposal requirements at 40 C.F.R. Part 761, Subpagt D.
How to Report	To EPA, or in the case of a state with an approved program, to the state agency responsible for carrying out the program.  (40 C.F.R. §§ 280.34, 280.50, 280.50, 280.52, 280.53)	To EPA Regional Office (40 C.F.R. § 761.125(a)(1))	To EPA on Form 7710-53 (see 54 Fed.Reg. 52725- 52726)
Who Must Report	Owners or operators of USTs; for releases, within 24 hours, or another reasonable time period specified by the implementing agency (40 C.F.R. §§ 280.50, 280.53); suspected spills must be confirmed within 7 days, or another reasonable time period specified by the implementing agency (40 C.F.R. § 280.52)	Owner of PCB equipment or facility or owner's agent. Report within shortest time after discovery, but within 24 hours (40 C.F.R. §§ 761.123 and 761.125)	Generators subject to \$761.65(b) or (c)(7) storage requirements, commercial storers, transporters, and disposers of PCB wasterequired to have EPA RCRA ID numbers for purposes of PCB waste, prior to engaging in PCB waste handling activity (40 C.F.R. \$\$761.205) [see fn. 10]
Reportable Event	(2) (i) Notification of bringing a UST system into use after May 8, 1986 (see 40 C.F.R. § 280.22); (ii) reports of all releases, including suspected releases, spills and overfills, and confirmed releases; (iii) corrective actions planned or taken; (iv) notification before permanent closure or change in service (40 C.F.R. § 280.34).	(1) All spills or uncontrolled releases of PCBs in excess of RQ or any spill of untested mineral oil. Includes leaks onto external surface of equipment (40 C.F.R. § 761.125)	(2) PCB waste handling activity
Statute	RCRA	TSCA	TSCA

# FOOTNOTES

- for complete and current reporting requirements. This chart includes many reporting requirements which may apply to companies in the course of doing business. There may be additional requirements depending on the situation. This chart is not intended, and cannot be considered, as legal advice or opinion. Statutes and regulations should always be reviewed
- HS means any substance as defined under 42 U.S.C. § 9601(14) or as designated by EPA rule under 42 U.S.C. § 9602(a). RQs may be found at 40 C.F.R. Part 302 and are calculated over a 24-bour period. Releases include release into any environmental medium. Permitted releases not reportable. ri
- information previously submitted (thus triggering change notification or statistically significant increase notification requirements) Initial reporting is required when a person in charge of the facility or vessel believes a basis is established under the regulations to qualify the release for reduced reporting under 42 U.S.C. § 9603(f)(2) (40 C.F.R. § 302.8(d)). Although there is only one annual written report required, all continuous releases must be evaluated annually to determine whether changes have occurred in the (40 C.F.R. § 302.8(i)). Following any change, a new annual written confirmation report is required (40 C.F.R. § 302.8(g)(1)). ω.
- the water or upon adjoining shorelines. HS are listed at 40 C.F.R. § 116. ROs are established at 40 C.F.R. § 117.3. "Navigable water" which causes a film or sheen upon or discoloration of the water or causes a sludge or emulsion to be deposited beneath the surface of Oil means oil of any kind or in any form (40 C.F.R. § 110.1(a)). HQ = quantity which violates applicable water quality standard or is broadly defined (40 C.F.R. § 117.1(i)). 4
- EHS means any substance listed at 40 C.F.R. Part 355, Appendix A or B; HS means any substance listed in 40 C.F.R. Table 302.4; ROs may be found at 40 C.F.R. Part 355, Appendix A or B and at 40 C.F.R. Table 302.4; Regulated facility means any facility at which a "hazardous chemical" (defined at 40 C.F.R. § 355.20) is produced, used or stored. See 40 C.F.R. § 355.40(a)(2) for exemptions to reporting requirements.
- 6. HM means any material listed at 49 C.F.R. \$ 172.101.
- HW means any material subject to RCRA manifest requirements (40 C.F.R. Part 263; 49 C.F.R. § 171.8). Incidents involving specified batteries or paints not reportable. ~
- Regulated substance means any HS under 42 U.S.C. § 9601(14) and petroleum, including crude oil or any fraction thereof. œ.
- be cleaned up. TSCA PCB reporting requirements are in addition to CWA and CERCLA reporting requirements. Under the CWA and CERCLA, the RQ is one pound (see 54 F.R. 33426 and 54 F.R. 53057). water, sewers or drinking water supplies, or grazing lands or vegetable gardens (40 C.F.R. § 761.125(a)). Such spills must nevertheless Spills of 10 pounds or less of PCBs by weight do not have to be reported to EPA under TSCA unless they directly contaminate surface o.
- PCB waste handling notification was also required of PCB waste generators (subject to storage requirements of § 761.65(b) or (c)(7)), commercial storers, transporters and disposers engaged in PCB waste handling activities prior to the effective date of the rule, February 5, 1990. Such notification was to have been made by April 4, 1990 (40 C.F.R. §§ 761.202. 761.205(a) (h)) j.

Abbreviat	Abbreviations of Terms	Abbreviations of Statutes
APCD	- Air Pollution Control District	CERCLA . Comprehensive Environmental Response, Compensation and Liability Act
50	- Coast Guard	CWA Federal Water Pollution Control Act or Clean Water Act
		EPCRA - Emergency Planning and Community Right To Know Act
DOHS	- Department of Health Services	HMTA - Hazardous Materials Transportation Act
DOT	- Department of Transportation	
EHS	- Extremely hazardous substance	RCRA - Resource Conservation and Recovery Act
X	- Hazardous material	
HO	- Harmful quantity	tille lik . Superfund Amendments and Keauthorization Act, Title III (see EPCRA, above)
HS	- Hazardous substance	TSCA - Toxic Substances Control Act
HW	- Hazardous waste	
a OZ	- National Contingency Plan	
NRC	· National Response Center	
OES	· Office of Emergency Services	
0/0	- Owner or operator	
OSC	. On Scene Coordinator	
RQ	- Reportable quantity	
RSPA	Research and Special Programs Administration, Department of Transportation	
RWQCB	- Regional Water Quality Control	

Underground storage tank

. Time weighted average

TWA

UST

EXHIBIT C

[CONFORMED COPY]

# RESTATED CERTIFICATE OF INCORPORATION

of

# REPUBLIC STEEL CORPORATION

Name changed to LTV STEEL COMPANY, INC. by amendment of Art. 1 of Certificate of Incorporation, effective December 19, 1984

May 31, 1983

As Amended June 29, 1984 December 19, 1984 July 15, 1987

## RESTATED CERTIFICATE OF INCORPORATION

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### REPUBLIC STEEL CORPORATION

### ARTICLE I

The name of the Corporation is:

LTV STEEL COMPANY, INC.

# ARTICLE II

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- 1. The current registered office of the Corporation is at 117 Main Street, in the Borough of Flemington, in the County of Hunterdon, New Jersey (08822) and the name of the current registered agent in charge thereof upon whom process against the Corporation may be served is Edwin K. Large, Jr.
- 2. The number of directors constituting the Corporation's current Board of Directors is 14 (subject to change from time to time in such manner as may be provided in the By-laws of the Corporation or as otherwise provided by law). The names and addresses of the persons currently serving as said directors are:

Name

- H. J. Bolwell
- J. G. Breen
- W. J. De Lancey
- W. R. Hartman
- R. H. Holdt
- E. B. Jones
- J. R. Kerr
- J. J. Loftus

Seymour S. Mintz

# Residence of Business Address



Name

S. C. Pace

S. K. Scovil

C. E. Spahr

L. A. Toepfer

W. J. Williams



### ARTICLE III

The purposes for which the Corporation is organized are to engage in any activity within the purposes for which corporations may be organized under the New Jersey Business Corporation Act as in effect at the date hereof, including without limiting the generality of the foregoing:

- 1. To engage in any such activity directly or through a subsidiary or subsidiaries, and to take all acts deemed appropriate to promote the interest of such subsidiary or subsidiaries, including without limiting the foregoing, making contracts and incurring liabilities for the benefit of such subsidiary or subsidiaries; transferring or causing to be transferred to any such subsidiary or subsidiaries assets of the Corporation; and guaranteeing the bonds, debentures, notes or other evidences of indebtedness issued, or obligations incurred, by such subsidiary or subsidiaries and securing the same by mortgage of or security interest in the property of the Corporation; and contracting that said bonds, debentures, notes or other evidences of indebtedness issued by such subsidiary or subsidiaries may be convertible into stock of the Corporation upon such terms and conditions as may be approved by the Board of Directors; and
- 2. To exercise as a purpose or purposes each power granted to corporations by the New Jersey Business Corporation Act and any amendment or supplement thereto or any corporation act snacted to take the place thereof, insofar as such powers authorize or may hereafter authorize corporations to engage in activities; and to guarantee the bonds, debentures, notes or other evidences of indebt-edness issued, or obligations incurred, by any corporation, partnership, limited partnership, joint venture or other association where the Corporation has or may acquire a substantial interest in such corporation, partnership, limited partnership, joint venture or other association or where such guarantee is otherwise in furtherance of the interests of the Corporation.

### ARTICLE IV

The aggregate number of shares which the Corporation is authorized to issue is 100,000,000 shares divided into 50,000,000 shares of Common Stock of the par value of \$10 a share and 50,000,000 shares of Preferred Stock of the par value of \$.10.

A. The designations, rights, preferences, privileges and limitations of the shares of Common Stock and shares of Preferred Stock and the manner of determining the designations, number of classes and of series

within classes of Preferred Stock and the relative voting, dividend, liquidation and other rights, preferences and limitations of each such class or series are as follows:

- 1. Shares of Preferred Stock may be divided into classes and series within any class, Such division into classes and series and the determination of the designation and the number of shares of any such class or series and of the relative rights, preferences and limitations of the shares of any such class or series, including whether the shares of any class shall be shares without par value or shares with par value, and the par value of shares of any class the shares of which are to have a par value, may be accomplished by this certificate of incorporation or an amendment or amendments hereof including an amendment or amendments made by action of the Board of Directors without stockholder approval. The Board of Directors is hereby authorized to take such action from time to time and to make such determinations, except (a) that all shares of the same class shall be either without par value or shall have the same par value; (b) that each class and each series shall be designated so as to distinguish its shares from those of every other class and series; and (c) that all shares within one class which is not divided into series and all shares within a series shall be of equal rank and otherwise identical. Without limitation upon the foregoing, the Corporation when so authorized in any such amendment may issue classes of shares of Preferred Stock and series of shares of any such class: (a) entitling the holders thereof to cumulative, non-cumulative or partially cumulative dividends; (b) entitling the holders thereof to receive dividends payable subordinate to or on a parity with or in preference to the dividends payable on any other class or series; (c) entitling the holders thereof to preferential rights upon the liquidation of, or upon any distribution of the assets of, the Corporation; (d) convertible, at the option of the holder or of the Corporation or both, into shares of any other class or classes or of any series of the same or any other class or classes: (e) redeemable in whole or in part at the option of the Corporation in cash, the Corporation's bonds, debentures, notes and other written obligations or in other property, at such price or prices, within such period or periods, and under such conditions as are stated in this certificate of incorporation or any amendment hereof, including redemption in accordance with a sinking fund or funds, which are hereby authorized to be created; and (f) lacking voting rights or having limited voting rights or enjoying special or multiple voting rights. The authority granted to the Board of Directors shall include authority to determine relative rights and preferences which are prior or subordinate to or equal with the shares of any other class or series whether or not such other shares are issued and outstanding at the time the Board of Directors acts, except that the Board of Directors shall not determine that the shares of any class or series shall have rights or preferences that would violate the terms or provisions of the amendment pursuant to which shares of Preferred Stock then outstanding were issued; to increase or to decrease the number of shares of any class or series previously determined, provided, however, that the number of shares of any class or series shall not be decreased to a number less than the number of shares of such class or series then outstanding and the number of shares of any such class or series shall not be increased in violation of the terms or provisions of the amendment pursuant to which shares of Preferred Stock then outstanding were issued; and to execute and file in the office of the Secretary of State of New Jersey a certificate of amendment to this certificate of incorporation as theretofore amended in order that this certificate of incorporation shall be amended so that the designation and number of shares of each class and series and the relative voting, dividend, liquidation and all other rights, preferences and limitations of each such class and series shall be as stated in the certificate of amendment, but not inconsistent with this Article IV. Shares of the Preferred Stock which shall at any time have been retired or cancelled in any manner including shares redeemed, treasury shares retired and shares which have been converted into or exchanged for Common Stock or other stock shall have the status of authorized but unissued shares of Preferred Stock and may be reissued as shares of the class or series of which they were originally a part or may be issued as shares of a new class or series or as shares of any other class or series.
- 2. Out of the assets of the Corporation legally available for dividends, the holders of Preferred Stock of each class or series outstanding from time to time shall be entitled to receive when and as declared by the Board of Directors cash dividends per share in the amount per annum or at the rate

per annum specified for such class or series in the certificate of amendment pursuant to which shares thereof were issued, and no more, payable in each case on the first days of January, April, July and October in each year or on such other dates specified in said certificate of amendment or as may be fixed by the Board of Directors, and accruing in each case from such date specified in said certificate of amendment or, if no date is so specified, from the date of issue. Such dividends shall be cumulative, non-cumulative or partially cumulative as shall be specified in said certificate of amendment. In case the dividends payable on any class or series of Preferred Stock entitled to preference in the payment of dividends over any other class or series of Preferred Stock or over the Common Stock, as the case may be, are not paid in full, all shares of such class or series shall share ratably in any payment of dividends thereon, in proportion to the sums that would be payable on the shares of such class or series if all dividends thereon were declared and paid in full (any class or series of Preferred Stock which is entitled to a preference in payment of dividend over any other class or series of Preferred Stock or over the Common Stock being hereinafter sometimes referred to as "senior stock"). In no event, so long as shares of senior stock shall be outstanding, shall any dividend or distribution, whether in cash or property, be declared or paid or set apart for payment on any stock ranking junior in the payment of dividends to such senior stock (any stock so ranking junior to such senior stock being hereinafter called "junior stock") nor shall any moneys be paid or set aside or made available for the retirement, redemption or purchase of any junior stock, nor shall any moneys be paid or set aside or made available for a sinking fund for the retirement, redemption or purchase of any junior stock, unless

- (a) all dividends in arrears (if any) upon the senior stock shall have been declared and paid in full.
- (b) dividends upon the senior stock for the then current dividend period shall have been declared and paid or set apart for payment,
- (c) all amounts, if any, theretofore required to be paid or set apart in respect of all sinking fund, purchase fund and analogous provisions for the senior stock shall have been paid or set apart for payment, and
- (d) the requirements, if any, for all sinking fund, purchase fund and analogous provisions for the senior stock for the then current period shall have been complied with.

Subject to the foregoing provisions of this Paragraph 2, dividends may be declared and paid upon each class or series of Preferred Stock ranking junior in the payment of dividends to the senior stock, and such dividends (payable in cash, stock or otherwise) as may be determined by the Board of Directors may be declared and paid upon the Common Stock out of the remaining assets of the Corporation legally available for dividends.

3. The Corporation may at its option, at any time or from time to time, redeem all or any part of the shares of any class or series of Preferred Stock, if and to the extent that the shares of such class or series shall be redeemable, by paying therefor in cash the redemption price provided for the shares of such class or series. Notice of redemption shall be given either by mail or by publication or both, as prescribed in respect of such shares of such class or series to be redeemed. If at any time less than all of the outstanding shares of any class or of any series is to be redeemed, the particular shares to be redeemed shall be selected by lot, or in such other manner as may be determined by the Board of Directors. Except as limited by law or as herein or in the amendments providing for the creation and issuance of any class or series or in the By-laws specifically provided, the Board of Directors shall have full discretion to prescribe and regulate, from time to time, the procedure to be followed in and all details concerning the redemption of any such shares. Notice of redemption having been duly given, the redemption price shall become due and payable on the date fixed for redemption and, if on or before the redemption date stated in such notice the funds necessary for such redemption shall have been deposited in trust for such redemption, then the right to receive dividends on the shares so called for redemption, except the right of the holders thereof to receive the redemption price therefor, shall (subject to the conversion rights, if any, of such shares that may extend to but not after the date fixed for redemption) forthwith upon such deposit cease and terminate.

- 4. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or any sale of all or substantially all of its assets, the holders of shares of each class of Preferred Stock and of each series within such class shall be entitled to receive payment in cash of such amount for each share of said class or series held by such holders respectively as shall be provided for said class or series in the certificate of amendment authorizing the issue of such class or series, and no more; and no sum shall be paid, and no distribution of any assets of the Corporation shall be made, to holders of shares of Preferred Stock of any class or series that is junior to any other class or series or to the holders of Common Stock until such payment to the holders of each class or series entitled to priority and in the order of their priority shall have been made or moneys therefor deposited in trust, but after such payment in full to the holders of each class or series entitled to priority, the remaining assets of the Corporation may be distributed ratably among the holders of the Common Stock. If upon such liquidation, dissolution, winding up or sale as aforesaid the assets thus distributable among the holders of any class or series entitled to priority in payment shall be insufficient to permit the payment to such holders of the amount of such priority in full, then the assets of the Corporation to be distributed to such holders shall be distributed among the respective holders of such class or series ratably, in proportion to the amounts payable upon the shares of such class or series held by them, respectively, if all such amounts were paid in full. For the purposes of this Paragraph 4 shares shall be deemed to be junior in relation to any class or series of Preferred Stock which, by the terms of any certificate of amendment hereof not contrary to provisions contained in any prior certificate of amendment, is entitled upon dissolution or liquidation to be paid prior to the payment of the amount payable on such shares, irrespective of any priority with respect to the payment of dividends. No merger or consolidation of the Corporation with or into another corporation organized under the laws of New Jersey or of any other state which shall not in fact result in the liquidation of the enterprise and the distribution of assets to stockholders shall be deemed to be a liquidation, dissolution or winding up of the Corporation or sale as aforesaid.
- 5. At every meeting of the stockholders each holder of shares of Common Stock shall be entitled to one vote for each share held at the time for determining stockholders entitled to vote at such meeting, and each holder of shares of any class or series of Preferred Stock shall have no voting rights or full or limited voting rights or special or multiple voting rights as shall be provided for such class or series in the certificate of amendment creating such class or series within any class.
- 6. Neither the holders of shares of Common Stock nor the holders of shares of any class or series of Preferred Stock shall have any preferential right of subscription to any shares of Common Stock or to any shares of Preferred Stock which the Corporation now is or hereafter may be authorized to issue, or to any securities convertible into Common Stock or Preferred Stock or to any rights or options to purchase or subscribe for shares of Common Stock or Preferred Stock of the Corporation now or hereafter authorized, nor any right of subscription to any thereof, other than such, if any, as the Board of Directors in its discretion may determine, and at such prices as the Board of Directors in its discretion may fix.
- 7. The term "dividends in arrears," whenever used in this Article IV in respect of shares that are or hereafter may be cumulative, shall be deemed to mean that amount which shall be equal to dividends at the rate per share per annum to which holders of the shares in question are or may be entitled from the date when dividends first commenced to accrue upon the shares in question or from the date the dividends on the shares in question became cumulative, if the certificate of amendment creating the class or series in question provides that dividends shall commence to be cumulative other than on the date from which dividends first accrued, to the dividend payment date next preceding the date in question, less the aggregate amount of all dividends paid upon the shares in question after the date upon which such dividends became cumulative. In case any shares of any class or series shall be issued at a time when there shall already be outstanding shares of such class or series shall be issued at a time when there shall already be outstanding shares of such class or series shall be deemed to have been paid upon the additional shares of such class or series so issued. The term "dividend payment date" is used herein to refer to the appropriate date, as specified or fixed in or pursuant to Paragraph 2 hereof, on which dividends on the shares in question may be payable,

whether or not such dividends are paid. The term "distribution," whenever used in respect of shares of stock of any class or series shall be deemed to include all dividends declared or paid and other distributions made on the stock of such class or series and all money and/or property and/or stock used in the retirement of stock of such class or series whether by purchase or otherwise.

- 8. The Corporation shall at all times reserve and keep available, out of its authorized and unissued stock, solely for the purpose of effecting the conversion of all shares that by the terms of any certificate of amendment shall be convertible into Common Stock of the Corporation, such number of shares of Common Stock as shall from time to time be sufficient to effect the conversion of all such shares from time to time outstanding. The Corporation shall from time to time, in accordance with the laws of New Jersey, increase the authorized amount of its Common Stock, if at any time the number of shares of Common Stock remaining unissued shall not be sufficient to permit the conversion of all such convertible shares then outstanding.
- 9. Shares of stock of the Corporation, whether authorized by this certificate of incorporation or by any amendment hereof, may be issued from time to time for such consideration as may be fixed from time to time by the Board of Directors, except that the consideration for stock having a par value shall not be less than the par value thereof, and authority to the Board of Directors so to fix such consideration is hereby granted by the stockholders.
- B. The designation, rights, preferences, privileges and limitations of the shares of Cumulative Exchangeable Preferred Stock are as follows:
  - (1) Designation. Pursuant to the provision of this Article IV, 28,000,000 shares of Preferred Stock of the Corporation have been classified as a series of Preferred Stock, \$.10 par value designated as "Cumulative Exchangeable Preferred Stock, \$.10 Par Value" (hereinafter called "First Series Preferred Stock").
  - The holders of shares of First Series (2) Dividends. Preferred Stock shall be entitled to receive dividends in shares of First Series Preferred Stock at the annual rate of .05 share of First Series Preferred Stock per share (or, at the option of the Corporation, in cash at the annual rate of \$0.80 per share or in shares of Common Stock of The LTV Corporation or any combination of cash and such shares), when and as declared by the Board of Directors out of funds legally available for the purpose, payable annually on the 15th day of April in each year, commencing April 15, 1988, to holders of record on such respective dates as may be determined by the Board of Directors in advance of the payment of each particular dividend. Only those shares of First Series Preferred Stock outstanding on any record date established by the Board of Directors shall be entitled to the dividend payable on the following dividend date, but all such outstanding shares shall be entitled to the full annual dividend, even if some or all of such shares were not outstanding during all the preceding calendar year. The First Series Preferred Stock shall rank as to dividends junior to, on a parity with or prior to other series or classes of preferred stock of the Corporation as determined in each instance by the Board of Directors of the Corporation; provided however, the Corporation has agreed to reach an agreement with the United Steelworkers of America ("USWA") prior to action by the Board of Directors regarding the ranking of all other series or classes of preferred stock of the Corporation which would rank as to

dividends prior to the First Series Preferred Stock unless the proceeds (net of deductions for all costs of issuance including underwriting, attorneys and listing fees) of the issuance and sale of such series or classes of preferred stock are to be used exclusively to provide additional working or other capital for the Corporation's steel business or unless such classes or series of preferred stock are issued during the period in which the Corporation is in bankruptcy proceedings as a result of any filing by the Corporation under Chapter 11 of the bankruptcy laws or as part of any plan of reorganization which follows as a result of such filing. No dividends shall be declared on any other series or classes of stock ranking on a parity with the First Series Preferred Stock as to dividends in respect of any dividend period unless there shall also be or have been declared on all shares of First Series Preferred Stock at the time outstanding like dividends for all annual periods ending at the same time as or before such period, ratably in proportion to the respective annual dividend rates per annum fixed therefor. Dividends shall be cumulative (whether or not there shall be net profits or net assets of the Corporation legally available for the payment of such dividends) and shall accrue on an annual basis as of the earlier of the record date established by the Board of Directors or the payment date specified in paragraph (2) hereof. No interest, or sum of money in lieu of interest, shall be payable in respect of any dividend payment or payments which may be in arrears.

If in any annual dividend period, dividends shall not have been declared and paid or set apart in full for payment on all outstanding shares of First Series Preferred Stock for such annual dividend period and all preceding annual dividend periods from and after the first day from which dividends are cumulative, then, until the aggregate deficiency shall be declared and fully paid or set apart for payment, the Corporation shall not (i) declare or pay or set apart for payment any dividends or make any other distribution on the Common Stock or any other capital stock of the Corporation ranking junior to the First Series Preferred Stock with respect to the payment of dividends or distribution of assets on liquidation, dissolution or winding up of the Corporation (the Common Stock and such other stock being herein referred to as "Junior Stock") or (ii) make any payment on account of the purchase, redemption or other retirement of any Junior Stock.

At the option of the Corporation and subject to the provisions hereof, any dividend may be paid in whole or in part, in cash of in shares of Common Stock of The LTV Corporation or in any combination of lawful money of the United States of America and such shares. If the Corporation desires to exercise its option to make a dividend payment on the First Series Preferred Stock wholly or partly in shares of Common Stock of The LTV Corporation (hereinafter sometimes called the "Stock Payment Option"), the Board of Directors shall do so in and by a resolution providing for the exercise of the Stock Payment Option.

If the Stock Payment Option is elected, the Corporation shall dispatch or cause to be dispatched to each holder a certificate representing the number of whole shares of Common Stock of The LTV Corporation arrived at by dividing the Computed Price of such Common Stock of The LTV Corporation into the total amount of lawful money of the United States of America which such holder would receive if the aggregate dividend on the shares held by such holder which is being paid in shares of Common Stock of The LTV Corporation were being paid in such lawful money.

The term "Computed Price" as of any dividend payment date means the price equal to the arithmetical average of the per share Sale Price for the Common Stock of The LTV Corporation for the ten consecutive trading days ending on the fifth calendar day (or if such day is not a trading day, then the trading day immediately preceding such calendar day) prior to the dividend payment date; provided, that in no event shall the Computed Price of a share of Common Stock of The LTV Corporation be less than the par value of such Common Stock (presently \$0.50 per share).

The term "Sale Price" means the average of the high and low sale prices (or, if no sale prices are reported, the average of the high and low bid prices) for the Common Stock of The LTV Corporation as reported in composite trading, or, if the Common Stock of The LTV Corporation is not listed on any national or regional stock exchange, as reported by NASDAQ or, if such Common Stock is not quoted on NASDAQ, as reported by the National Quotation Bureau Incorporated. If the Sale Price cannot be established as described above, the Sale Price shall be the fair market value of the Common Stock of The LTV Corporation as determined in good faith by the Board of Directors of the Corporation.

No fractional shares will be issued in payment of dividends. In lieu thereof, the Corporation may issue a number of shares of First Series Preferred Stock or Common Stock of The LTV Corporation, as the case may be, which reflects a rounding up to the next whole number or may pay lawful money of the United States of America in an amount equal to the stated value of such fractional share in the case of First Series Preferred Stock or in an amount equal to the fair value of such fractional share in the case of Common Stock of The LTV Corporation, as determined by the Board of Directors. The shares of Common Stock of The LTV Corporation to be paid by the Corporation in payment of the dividend on the First Series Preferred Stock are sometimes referred to hereinafter as the "Dividend Shares".

The Corporation shall not exercise the Stock Payment Option with respect to any dividend payment if:

(i) the payment of dividend has not been or will not be made within five Business Days following the dividend payment date;

- (11) the number of shares of Common Stock of The LTV Corporation held in the Corporation's treasury is insufficient to pay the portion of such dividend to be paid in Common Stock of The LTV Corporation;
- (iii) the issuance or delivery of shares of Common Stock of The LTV Corporation pursuant to the Stock Payment Option would require registration with or approval of any Governmental Authority under any law or regulation, and such registration or approval has not been effected or obtained; or
- (iv) the Computed Price is less than the par value of the shares of Common Stock of The LTV Corporation.

If the Corporation pays such dividend in shares of First Series Preferred Stock or exercises the Stock Payment Option with respect to a dividend payment, it shall deliver to the Transfer Agent, no later than the fifth calendar day prior to the date on which shares of First Series Preferred Stock or Dividend Shares for such dividend payment are to be dispatched to holders, an Officers' Certificate setting forth (1) the portion of the dividend payment being made in shares of First Series Preferred Stock or Common Stock of The LTV Corporation and, (11) the number of Dividend Shares allocable to such dividend payment on each share, as calculated pursuant to this Section 2.

(3) Liquidation Preference. The First Series Preferred Stock shall renk upon liquidation, dissolution or winding up of the Corporation junior to, on a parity with or prior to other series or classes of preferred stock of the Corporation as determined in each instance by the Board of Directors of the Corporation; provided however, the Corporation has agreed to reach an agreement with the USWA prior to action by the Board of Directors regarding the ranking of all other series or classes of preferred stock of the Corporation which would rank upon liquidation, dissolution or winding up of the Corporation prior to the First Series Preferred Stock unless the proceeds (net of deductions for all costs of issuance including underwriting, attorneys and listing fees) of the issuance and sale of such series or classes of preferred stock are to be used exclusively to provide additional working or other capital for the Corporation's steel business or unless such classes or series of preferred stock are issued during the period in which the Corporation is in bankruptcy proceedings as a result of any filing by the Corporation under Chapter 11 of the bankruptcy laws or as part of any plan of reorganization which follows as a result of such filing. In the event of any liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary, before any payment or distribution of the assets of the Corporation (whether capital or surplus) shall be made to or set apart for the holders of the Common Stock of the Corporation or any other series or class or classes of stock of the Corporation ranking junior to

the First Series Preferred Stock upon liquidation, dissolution or winding up, the holders of the shares of the First Series Preferred Stock shall be entitled to receive \$16 per share plus an amount equal to all dividends (whether or not earned or declared) accrued and unpaid thereon to the date of final distribution to such holders; but such holders shall not be entitled to any further payment. If, upon any liquidation, dissolution or winding up of the Corporation, the assets of the Corporation, or proceeds thereof, distributable among the holders of the shares of the First Series Preferred Stock shall be insufficient to pay in full the preferential amount aforesaid and liquidating payments on any other preferred stock ranking as to liquidation, dissolution or winding up, on a parity with the First Series Preferred Stock, then such assets and proceeds shall be distributed among the holders of First Series Preferred Stock and any such other preferred stock ratably in accordance with the respective amounts which would be payable upon liquidation, dissolution or winding up on such shares of First Series Preferred Stock and any such other preferred stock if all amounts payable thereon were paid in full. For the purposes of this Section (3), a consolidation or merger of the Corporation with one or more corporations shall not be deemed to be a liquidation, dissolution or winding up, voluntary or involuntary.

Subject to the rights of the holders of shares of any series or class or classes of stock ranking on a parity with or prior to the First Series Preferred Stock upon liquidation, dissolution or winding up, upon any liquidation, dissolution or winding up of the Corporation, after payment shall have been made in full to the First Series Preferred Stock as provided in this Section (3), but not prior thereto, the holders of the Common Stock or any other series or classes or classes of stock ranking junior to the First Series Preferred Stock upon liquidation, dissolution or winding up of the Corporation shall, subject to the respective terms and provisions (if any) applying thereto, be entitled to receive any and all assets remaining to be paid or distributed, and the First Series Preferred Stock shall not be entitled to share therein.

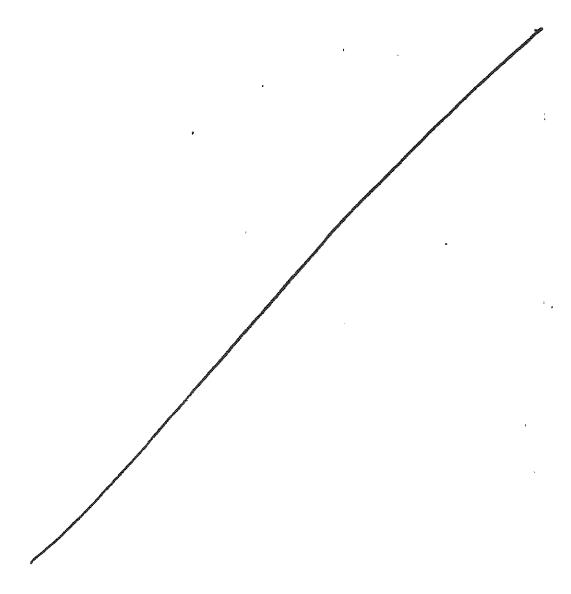
- (4) Redemption. (a) The Corporation, at its option, may redeem shares of the First Series Preferred Stock, as a whole or in part, at any time or from time to time in cash at \$16 per share, plus accrued and unpaid dividends to the date fixed for redemption.
  - (b) In the event the Corporation shall redeem shares of First Series Preferred Stock, notice of such redemption shall be given by first class mail, postage prepaid, mailed not less than 30 days prior to the redemption date, to each holder of record of the shares to be redeemed, at such holder's address as the same appears on the stock register of the Corporation. Each such notice shall state: (1) the redemption date;

(2) the number of shares of First Series Preferred Stock to be redeemed and, if less than all the shares held by such holder are to be redeemed, the number of such shares to be redeemed from such holder; (3) the redemption price; (4) the place or places where certificates for such shares are to be surrendered for payment of the redemption price; and (5) that dividends on the shares to be redeemed will cease to accrue on such redemption date. Upon surrender in accordance with said notice of the certificates for any shares so redeemed (properly endorsed or assigned for transfer, if the Board of Directors of the Corporation shall so require and the notice shall so state), such shares shall be redeemed by the Corporation at the redemption price aforesaid.

If less than all the outstanding shares of First Series Preferred Stock not previously called for redemption are to be redeemed on any redemption date, shares to be redeemed shall be selected by the Corporation from outstanding shares of First Series Preferred Stock not previously called for redemption by lot, pro rata (as nearly as may be) or by any other method determined by the Board of Directors of the Corporation in its sole discretion to be equitable to the holders of the First Series Preferred Stock.

- (5) Shares to be Retired. All shares of First Series Preferred Stock redeemed by the Corporation may be reissued.
- (6) Voting. Except as otherwise from time to time required by law, the First Series Preferred Stock shall have no voting rights.
- (7) Sinking Fund. Shares of First Series Preferred Stock are not subject or entitled to the benefit of a sinking fund.

8:52AM



# ARTICLE V

The Corporation is to have perpetual existence.

# ARTICLE VI

- 1. The directors of the Corporation shall hold office until the next annual meeting of stockholders following their election and until their respective successors are duly elected.
- 2. The number of directors of the Corporation shall be fixed from time to time by, or in the manner provided in, the Corporation's By-laws and may be increased or decreased as therein provided, but the number thereof shall not be less than one \i
- 3. Any directorship not filled at the annual meeting of stockholders and any vacancy, however caused, occurring in the Board of Directors may be filled by the affirmative vote of a majority of the remaining directors even though less than a quorum of the Board.
- 4. Any directorship to be filled by reason of an increase in the number of directors may be filled by the Board of Directors.

#### ARTICLE VII

Except as otherwise provided by statute, by this certificate of incorporation as the same may be amended from time to time or by By-laws as the same may be amended from time to time, all corporate powers may be exercised by the Board of Directors. Without limiting the foregoing, the Board of Directors shall have power, without stockholder action:

- 1. To authorize the Corporation to purchase, acquire, hold, lease, mortgage, pledge, sell and convey such property, real, personal and mixed, without as well as within the State of New Jersey, as the Board of Directors may from time to time determine, and in payment for any property to issue, or cause to be issued, stock of the Corporation, or bonds, debentures, notes or other obligations or evidences of indebtedness thereof secured by pledge, security interest or mortgage, or unsecured.
- 2. To determine from time to time to what extent and at what times and places and under what conditions and regulations the accounts and books of the Corporation, or any of them, shall be open to the inspection of the stockholders, and no stockholder shall have any right to inspect any account, book or documents of the Corporation, except as conferred by statute or by the Board of Directors.
- 3. To authorize the borrowing of money; the issuance of bonds, debentures, notes and other obligations or evidences of indebtedness of the Corporation, secured or unsecured, and the inclusion of provisions as to redeemability and convertibility into shares of stock of the Corporation or otherwise; and, as security for money borrowed or bonds, debentures, notes and other obligations of evidences of indebtedness issued by the Corporation, the mortgaging or pledging of any property, real, personal or mixed, then owned or thereafter acquired by the Corporation.
- 4. To loan money to, or guarantee an obligation of, or otherwise assist any officer or other employee of the Corporation or of any subsidiary, including an officer or employee who is also a director of the Corporation, whenever, in the judgment of the Board of Directors, such loan, guarantee or assistance may reasonably be expected to benefit the Corporation.
- 5. By the affirmative vote of a majority of the directors in office, to remove a director or directors for cause where, in the judgment of such majority, the continuation of the director or directors in office would be harmful to the Corporation and to suspend the director or directors for a reasonable period pending final determination that cause exists for such removal.

In Witness Whereof, Republic Steel Corporation has caused this Restated Certificate of Incorporation to be executed on behalf of the Corporation by its Chairman of the Board this 31st day of May, 1983.

REPUBLIC STEEL CORPORATION

By E. B. Jones
Chairman and Chief Executive Officer

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RESOLVED, that Article VI, Paragraph 2 shall be amended to state in its entirety as follows:

2. The number of directors of the Corporation shall be fixed from time to time by, or in the manner provided in, the Corporation's By-laws and may be increased or decreased as therein provided, but the number thereof shall not be less than one.

Written Consent
Dated 6/29/84

(B) The merger of J&L into the Corporation shall result in the amendment of Article 1 of the Certificate of Incorporation of the surviving corporation to read as follows:

ARTICLE 1. The name of the Corporation is LTV Steel Company, Inc. Meeting

Meeting-Board of Directors-December 10, 1994

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## CERTIFICATE OF AMENDMENT TO THE RESTATED

# CERTIFICATE OF INCORPORATION, AS AMENDED, OF

FILED

LTV STEEL COMPANY, INC.

JUL 22 1987

To: The Secretary of State State of New Jersey

JANE BURGIO Secretary of State

Pursuant to the provisions of Section 14A:9-2(4), Section 14A:9-4(3), and Section 14A:7-2(2) of the New Jersey Business Corportion Act, the undersigned corporation executes the following Certificate of Amendment to its Restated Certificate of Incorporation, as amended:

1. The name of the corporation is

# LTV STEEL COMPANY, INC,

2. The following amendment to the Restated
Certificate of Incorporation, as amended, was approved by the
directors and thereafter duly adopted by the shareholders of
the corporation as of the 15th day of July, 1987:

RESOLVED, that Article IV, of the Restated Certificate of Incorporation, as amended, be amended so that the first sentence thereof and the immediately following preface to the numbered paragraphs read as follows:

"The aggregate number of shares which the Corporation is authorized to issue is 100,000,000 shares divided into 50,000,000 shares of Common Stock of the par value of \$10 a share and 50,000,000 shares of Preferred Stock of the par value of \$.10.

A. The designations, rights, preferences, privileges and limitations of the shares of Common Stock and shares of Preferred Stock and the manner of determining the designations, number of classes and of series within classes of Preferred Stock and the relative voting, dividend, liquidation and other rights, preferences and limitations of each such class or series are as follows:

RESOLVED, that Subsection B of Article IV of the Restated Certificate of Incorporation, as amended, be deleted in its entirety.

- 3. The number of shares entitled to vote upon the amendment was 100.
- 4. That in lieu of a meeting and vote of the shareholders and in accordance with the provisions of Section 14A:5-6, the amendment was adopted by the sole shareholder of the Corporation without a meeting pursuant to the written consent of the sole shareholder and the number of shares represented by such consent is 100 shares.
- 5. The following resolutions, establishing and designating a series of shares and fixing and determining the relative rights and preferences thereof were duly adopted by the board of directors of the Corporation as of the 15th day of July, 1987 pursuant to authority vested in it by the Restated Certificate of Incorporation, as amended, and Section 14A:7-2 of the New Jersey Business Corporation Act:

RESOLVED, that Article IV of the Restated Certificate of Incorporation, as amended, be and hereby is further amended by adding immediately after Subsection A, Subsection B, which sets forth the rights, preferences and limitations of the Cumulative Exchangeable Preferred Stock, which Subsection B shall read in its entirety as follows:

- \*B. The designation, rights, preferences, privileges and limitations of the shares of Cumulative Exchangeable Preferred Stock are as follows:
  - (1) Designation. Pursuant to the provision of this Article IV, 28,000,000 shares of Preferred Stock of the Corporation

have been classified as a series of Preferred Stock, \$.10 par value designated as "Cumulative Exchangeable Preferred Stock, \$.10 Par Value" (hereinafter called "First Series Preferred Stock").

(2) Dividends. The holders of shares of First Series Preferred Stock shall be entitled to receive dividends in shares of First Series Freferred Stock at the annual rate of .05 share of First Series Preferred Stock per share (or, at the option of the Corporation, in cash at the annual rate of \$0.80 per share or in shares of Common Stock of The LTV Corporation or any combination of cash and such shares), when and as declared by the Board of Directors out of funds legally available for the purpose, payable annually on the 15th day of April in each year, commencing April 15, 1988, to holders of record on such respective dates as may be determined by the Board of Directors in advance of the payment of each particular . dividend. Only those shares of First Series Preferred Stock outstanding on any record date established by the Board of Directors shall be entitled to the dividend payable on the following dividend date; but all such outstanding shares shall be entitled to the full annual dividend, even if some or all of such shares were not outstanding during all the preceding calendar year. The First Series Preferred Stock shall rank as to dividends junior to, on a parity with or prior to other series or classes of preferred stock of the Corporation as determined in each instance by the Board of Directors of the Corporation; provided however, the Corporation has agreed to reach an agreement with the United Steelworkers of America ("USWA") prior to action by the Board of Directors regarding the ranking of all other series or classes of preferred stock of the Corporation which would rank as to dividends prior to the First Series Preferred Stock unless the proceeds (net of deductions for all costs of issuance including underwriting, attorneys and listing fees) of the issuance and sale of such series or classes of preferred stock are to be used exclusively to provide

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OCT.16.1998

additional working or other capital for the Corporation's steel business or unless such classes or series of preferred stock are issued during the period in which the Corporation is in bankruptcy proceedings as a result of any filing by the Corporation under Chapter 11 of the bankruptcy laws or as part of any plan of reorganization which follows as a result of such filing. No dividends shall be declared on any other series or classes of stock ranking on a parity with the First Series Preferred Stock as to dividends in respect of any dividend period unless there shall also be or have been declared on all shares of First Series Preferred Stock at the time outstanding like dividends for all annual periods ending at the same time as or before such period, ratably in proportion to the respective annual dividend rates per annum fixed therefor. Dividends shall be cumulative (whether or not there shall be net profits or net assets of the Corporation legally available for the payment of such dividends) and shall accrue on an annual basis as of . the earlier of the record date established by the Board of Directors or the payment date specified in paragraph (2) hereof. interest, or sum of money in lieu of interest, shall be payable in respect of any. dividend payment or payments which may be in arrears.

If in any annual dividend period, dividends shall not have been declared and paid or set apart in full for payment on all outstanding shares of First Series Preferred Stock for such annual dividend period and all preceding annual dividend periods from and after the first day from which dividends are cumulative, then, until the aggregate deficiency shall be declared and fully paid or set apart for payment, the Corporation shall not (i) declare or pay or set apart for payment any dividends or make any other distribution on the Common Stock or any other capital stock of the Corporation ranking junior to the First Series Preferred Stock with respect to the payment of dividends or distribution of assets on liquidation, dissolution or winding up of

the Corporation (the Common Stock and such other stock being herein referred to as "Junior Stock") or (ii) make any payment on account of the purchase, redemption or other retirement of any Junior Stock.

At the option of the Corporation and subject to the provisions hereof, any dividend may be paid in whole or in part, in cash or in shares of Common Stock of The LTV Corporation or in any combination of lawful money of the United States of America and such shares. If the Corporation desires to exercise its option to make a dividend payment on the First Series Preferred Stock wholly or partly in shares of Common Stock of The LTV Corporation (hereinafter sometimes called the "Stock Payment Option"), the Board of Directors shall do so in and by a resolution providing for the exercise of the Stock Payment Option.

If the Stock Payment Option is elected, the Corporation shall dispatch or cause to be dispatched to each holder a certificate representing the number of whole shares of Common Stock of The LTV Corporation arrived at by dividing the Computed Price of such Common Stock of The LTV Corporation into the total amount of lawful money of the United States of America which such holder would receive if the aggregate dividend on the shares held by such holder which is being paid in shares of Common Stock of The LTV Corporation were being paid in such lawful money.

The term "Computed Price" as of any dividend payment date means the price equal to the arithmetical average of the per share Sale Price for the Common Stock of The LTV Corporation for the ten consecutive trading days ending on the fifth calendar day (or if such day is not a trading day, then the trading day immediately preceding such calendar day) prior to the dividend payment date; provided, that in no event shall the Computed Price of a share of Common Stock of The LTV Corporation be less than the par value of such Common Stock (presently \$0.50 per share).

The term "Sale Price" means the average of the high and low sale prices (or, if no sale prices are reported, the average of the high and low bid prices) for the Common Stock of The LTV Corporation as reported in composite trading, or, if the Common Stock of The LTV Corporation is not listed on any national or regional stock exchange, as reported by NASDAQ or, if such Common Stock is not quoted on NASDAQ, as reported by the National Quotation Bureau Incorporated. If the Sale Price cannot be established as described above, the Sale Price shall be the fair market value of the Common Stock of The LTV Corporation as determined in good faith by the Board of Directors of the Corporation.

No fractional shares will be issued in payment of dividends. In lieu thereof, the Corporation may issue a number of shares of First Series Preferred Stock or Common Stock of The LTV Corporation, as the case may be, which reflects a rounding up to the next whole number or may pay lawful money of the United States of America in an amount equal to the stated value of such fractional share in the case of First Series Preferred Stock or in an amount equal to the fair value of such fractional share in the case of Common Stock of The LTV Corporation, as determined by the Board of Directors. The shares of Common Stock of The LTV Corporation to be paid by the Corporation in payment of the dividend on the First Series Preferred Stock are sometimes referred to hereinafter as the "Dividend Shares."

The Corporation shall not exercise the Stock Payment Option with respect to any dividend payment if:

- (i) the payment of dividend has not been or will not be made within five Business Days following the dividend payment date;
- (ii) the number of shares of Common Stock of The LTV Corporation held in the Corporation's treasury is insufficient to pay the portion of such dividend to be paid in Common Stock of The LTV Corporation;

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(iii) the issuance or delivery of shares of Common Stock of The LTV Corporation pursuant to the Stock Payment Option would require registration with or approval of any Governmental Authority under any law or regulation, and such registration or approval has not been effected or obtained; or

(iv) the Computed Price is less than the par value of the shares of Common Stock of The LTV Corporation.

If the Corporation pays such dividend in shares of First Series Preferred Stock or exercises the Stock Payment Option with respect to a dividend payment, it shall deliver to the Transfer Agent, no later tham the fifth calendar day prior to the date on which shares of First Series Preferred Stock or Dividend Shares for such dividend payment are to be dispatched to holders, an Officers' Certificate setting forth (i) the portion of the dividend payment being made . in shares of First Series Preferred Stock or Common Stock of The LTV Corporation and, (ii) the number of Dividend Shares allocable to such dividend payment on each share, as calculated pursuant to this Section 2.

Liquidation Preference. (3)The First Series Preferred Stock shall rank upon liquidation, dissolution or winding up of the Corporation junior to, on a parity with or prior to other series or classes of preferred stock of the Corporation as determined in each instance by the Board of Directors of the Corporation; provided however, the Corporation has agreed to reach an agreement with the USWA prior to action by the Board of Directors regarding the ranking of all other series or classes of preferred stock of the Corporation which would rank upon liquidation, dissolution or winding up of the Corporation prior to the First Series Preferred Stock unless the proceeds (net of deductions for all costs of issuance including underwriting, attorneys and listing fees) of the issuance and sale of such series or classes of preferred stock

are to be used exclusively to provide additional working or other capital for the Corporation's steel business or unless such classes or series of preferred stock are issued during the period in which the Corporation is in bankruptcy proceedings as a result of any filing by the Corporation under Chapter 11 of the bankruptcy laws or as part of any plan of reorganization which follows as a result of such filing. event of any liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary, before any payment or distribution of the assets of the Corporation (whether capital or surplus) shall be made to or set apart for the holders of the Common Stock of the Corporation or any other series or class or classes of stock of the Corporation ranking junior to the First Series Preferred Stock upon liquidation, dissolution or winding up, the holders of the shares of the First Series Preferred Stock shall be entitled to receive \$16 per share plus an amount equal to all dividends (whether or not earned or . declared) accrued and unpaid thereon to the date of final distribution to such holders; but such holders shall not be entitled to any further payment. If, upon any liquidation, dissolution or winding up of the Corporation, the assets of the Corporation, or proceeds thereof, distributable among the holders of the shares of the First Series Preferred Stock shall be insufficient to pay in full the preferential amount aforesaid and liquidating payments on any other preferred stock ranking as to liquidation, dissolution or winding up, on a parity with the First Series Preferred Stock, then such assets and proceeds shall be distributed among the holders of First Series Preferred Stock and any such other preferred stock ratably in accordance with the respective amounts which would be payable upon liquidation, dissolution or winding up on such shares of First Series Preferred Stock and any such other preferred stock if all amounts payable thereon were paid in full. For the purposes of this Section (3), a consolidation or merger of the Corporation with one or more

corporations shall not be deemed to be a liquidation, dissolution or winding up, voluntary or involuntary.

Subject to the rights of the holders of shares of any series or class or classes of stock ranking on a parity with or prior to the First Series Preferred Stock upon liquidation, dissolution or winding up, upon any liquidation, dissolution or winding up of the Corporation, after payment shall have been made in full to the First Series Preferred Stock as provided in this Section (3), but not prior thereto, the holders of the Common Stock or any other series or class or classes of stock ranking junior to the First Series Preferred Stock upon liquidation, dissolution or winding up of the Corporation shall, subject to the respective terms and provisions (if any) applying thereto, be entitled to receive any and all assets remaining to be paid or distributed, and the First Series Preferred Stock shall not be entitled to share therein.

- (4) Redemption. (a) The Corporation, at its option, may redeem shares of the First Series Preferred Stock, as a whole or in part, at any time or from time to time in cash at \$16 per share, plus accrued and unpaid dividends to the date fixed for redemption.
- (b) In the event the Corporation shall redeem shares of First Series Preferred Stock, notice of such redemption shall be given by first class mail, postage prepaid, mailed not less than 30 days prior to the redemption date, to each holder of record of the shares to be redeemed, at such holder's address as the same appears on the stock register of the Corporation. Each such notice shall state: (1) the redemption date; (2) the number of shares of First Series Preferred Stock to be redeemed and, if less than all the shares held by such holder are to be redeemed, the number of such shares to be redeemed from such holder; (3) the redemption price; (4) the place or places where certificates for such shares are to be surrendered for payment of the redemption price; and (5) that dividends on the shares to be redeemed will cease to accrue on such redemption date. Upon surrender in accordance with said notice of

the certificates for any shares so redeemed (properly endorsed or assigned for transfer, if the Board of Directors of the Corporation shall so require and the notice shall so state), such shares shall be redeemed by the Corporation at the redemption price aforesaid:

If less than all the outstanding shares of First Series Preferred Stock not previously called for redemption are to be redeemed on any redemption date, shares to be redeemed shall be selected by the Corporation from outstanding shares of First Series Preferred Stock not previously called for redemption by lot, pro rata (as nearly as may be) or by any other method determined by the Board of Directors of the Corporation in its sole discretion to be equitable to the holders of the First Series Preferred Stock.

- (5) Shares to be Retired. All shares of First Series Preferred Stock redeemed by the Corporation may be reissued.
- (6) Voting. Except as otherwise from time to time required by law, the First Series
  Preferred Stock shall have no voting rights.
- (7) Sinking Fund. Shares of First Series Preferred Stock are not subject or entitled to the benefit of a sinking fund."
- 6. That in lieu of meeting and vote of the directors and in accordance with the provisions of Sections 14A:6-7(1) and 14A:7-2(1), the foregoing resolutions were adopted by the directors by unanimous written consent without a meeting.
- 7. That the Restated Certificate of Incorporation, as amended, is amended so that the designation and number of shares of each class and series acted upon in the resolutions, and the

relative rights, preferences and limitations of each such class and series are as stated in the foregoing resolutions.

Dated this 15th day of July, 1987.

LIV STEEL COMPANY, INC.

W. P. Twomey

Vice President and Controller

# CERTIFICATE OF AMENDMENT OF CERTIFICATE OF INCORPORATION OF

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SEP 24 1993

LTV Steel Company, Inc.

DANIEL J. DAUTON Secretary J. State

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To: The S

The Secretary of State State of New Jersey

Pursuant to the provisions of Section 14A:9-2(4) and Section 14A:9-4(3), Corporations, General, of the New Jersey Statutes, the undersigned corporation executes the following Certificate of Amendment to its Certificate of Incorporation:

- 1. The name of the corporation is LTV Steel Company, Inc..
- 2. The following amendment to the Certificate of Incorporation was approved by the directors and thereafter duly adopted by the shareholders of the corporation on the 28th day of June, 1993:

RESOLVED, that the following addition is to be designated as the last Article of the Certificate of Incorporation:

"No nonvoting equity securities of the Corporation may be issued; this provision, in compliance with Section 1123 of the United States Bankruptcy Code, 11 U.S.C. Section 1123, shall have no force and effect except to the extent required by such Section so long as such Section is in effect and applicable to the Corporation."

- 3. The number of shares entitled to vote upon the amendment was 110.
- 4. That in lieu of a meeting and vote of the shareholders and in accordance with the provisions of Section 14A:5-6, the amendment was adopted by the shareholders without a meeting pursuant to the written consents of the shareholders and the number of shares represented by such consents is 110 shares.

Dated as of the 28th day of June, 1993.

LTV Steel Company, Inc.

G.J.Moran

Senior Vice President and Secretary

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# CERTIFICATE OF AMENDMENT OF CERTIFICATE OF INCORPORATION OF

ADB

SEP 27 1993

LTV Steel Company, Inc.

DANIEL J. DALTON
Secretary of State

To:

The Secretary of State State of New Jersey

Pursuant to the provisions of Section 14A:9-2(4) and Section 14A:9-4(3), Corporations, General, of the New Jersey Statutes, the undersigned corporation executes the following Certificate of Amendment to its Certificate of Incorporation:

- 1. The name of the corporation is LTV Steel Company, Inc..
- 2. The following amendment to the Certificate of Incorporation was approved by the directors and thereafter duly adopted by the shareholders of the corporation on the 14th day of September, 1993:

RESOLVED, that the last Article, containing the following provision, of the Certificate of Incorporation be deleted:

"No nonvoting equity securities of the Corporation may be issued; this provision, in compliance with Section 1123 of the United States Bankruptcy Code, 11 U.S.C. Section 1123, shall have no force and effect except to the extent required by such Section so long as such Section is in effect and applicable to the Corporation."

- 3. The number of shares entitled to vote upon the amendment was 110.
- 4. That in lieu of a meeting and vote of the shareholders and in accordance with the provisions of Section 14A:5-6, the amendment was adopted by the shareholders without a meeting pursuant to the written consents of the shareholders and the number of shares represented by such consents is 110 shares.

Dated this 14th day of September, 1993.

LTV Steel Company, Inc.

G.J.Molan

Senior Vice President and Secretary

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AIC # 98-8

Date: 5/11/98

Type: Fluid release

Location: LTV Steel, East Chicago, IL

Personnel Involved:

# **SUNOHIO**

Tonya Cihon - Project Manager Robert Reno - Compliance Manager Rob Eddy - Field Technician Hank Mason - Field Technician

# LTY

Brennan Lyons Mike Deren - Environmental William Lepak - Utilities

# Summary:

On May 11, 1998, Brennan Lyons of LTV Steel called to report a fluid release from a System 50 processor attached to their transformer #46, serial #2901979 located at the #2 Tin Mill. LTV personnel noticed the leak on 5/11 shutting down power to the processor and isolated the unit by closing the valves on the connecting lines. A SUNOHIO crew was dispatched and arrived on 5/12. The technicians found the transformer operating at a low level. The perchloroethylene dielectric fluid, which was being processed to remove PCBs, had leaked from a crack in a weld in the boiling chamber. This chamber is not a pressurized tank

After inspection the crew reported that the fluid was contained within the external steel spill pan and internal components of the processor. The fluid level in the pan was not above the edge of the pan. This containment pan measures 34" x 46" x 3". No release occurred to the concrete floor. The substation is located indoors. The SUNOHIO crew recovered the contained perchloroethylene and removed the processor for shipment back to Canton. The crew pumped 70 gallons of new fluid into the transformer to bring it back to operating level. Based on the recovered amount of fluid from the processor it is estimated that 25 gallons of perchloroethylene was not recovered and was released into the air.



This processor had been installed on 1/21/98 to process 45 ppm PCBs from the dielectric fluid. On 5/11, the date of the release, the PCB level in the fluid was 27 ppm. None of this fluid reached the floor or other equipment. A replacement processor was installed. The recovered fluid and damaged processor were returned to the SUNOHIO facility in Canton, OH. The processor will be inspected for repair and the perchloroethylene dielectric fluid will be recycled for continued use. The perchloroethylene dielectric replacement fluid will be the final fluid for this contract.

Report by: Robert D. Reno, Compliance Manager

Robert D. Reng

EXHIBIT E



# FAX

SUNOHIO 1515 Bank PI SW CANTON, OH 44706 330-452-0837 330-430-4486 FAX

DATE: September 14, 1998

TO: Mike Deren - LTV Steel

FROM: Robert Reno - Compliance Dept.

FAX NUMBER: 219-391-3211

TOTAL PAGES: 13 including cover

COMMENTS:

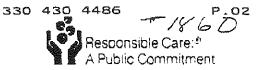
Mike:

Attached is the MSDS for the perchloroethylene based dielectric fluid. It was manufactured by OxyChem under the trade name Transclene. If you need any other information please call.

RŔ

Sep-14-98 08:28A SUNOHIO, Inc.





# MATERIAL SAFETY DATA SHEET

MSDS NUMBER : M20544

MSDS DATE : 12-16-93

PRODUCT NAME: TRANSCLENE

24 HOUR EMERGENCY PHONE: 1-800-733-3665 OR 716-278-7021

# I. PRODUCT IDENTIFICATION

# HMIS HAZARD RATINGS

FIRE HAZARD 0 REACTIVITY HEALTH HAZARD 2\* Based on the National Paint & Coatings Association HMIS rating system,

# SARA/TITLE III HAZARD CATEGORIES (See Section X)

Immediate (ACUTE) Health: YES Delayed (Chronic) Health: YES

Reactive Hazard: Sudden Release of Pressure: NO

Fire Hazard: NO

MANUFACTURER'S:

Occidental Chemical Corporation
Customer Service, Occidental Tower, Telephone
P O Box 809050, Dallas, Texas 75380 (1-800-752-5151) NAME AND ADDRESS

CAS NUMBER: 127-18-4 CHEMICAL NAME: Tetrachloroethylene

SYNONYMS/COMMON NAMES: Tetrachloroethylene

PRODUCT USE: Transformer Fluid

DOT PROPER SHIPPING NAME: Tetrachloroethylene

DOT HAZARD CLASS: 6.1

DOT IDENTIFICATION NUMBER: UN 1897

DOT PACKING GROUP: III

DOT HAZARDOUS SUBSTANCE: RQ = 100 lbs. (Tetrachloroethylene)

DOT MARINE POLLUTANT: Marine Pollutant (Perchloroethylene)

ADDITIONAL DESCRIPTION REQUIREMENT: NA

TDG SHIPPING NAME: Tetrachloroethylene

TOG PRIMARY CLASS: 6.1

TOG IDENTIFICATION NUMBER: UN 1897

TDG PACKING GROUP: [1] RL FOR DIVISION 9.2: NA

CAS I Chemical Addition to infinge and storage of the control to the construed as a recommendation to infinge and storage and the construed as a recommendation to infinge and storage and according to the control to the control

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#### II. HEALTH HAZARD INFORMATION

#### EMERGENCY AND FIRST AID PROCEDURES

#### EYES:

OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY THEN SEEK MEDICAL ATTENTION. IMMEDIATELY flush eyes with large amounts of water for at least 15 minutes, holding lids apart to ensure flushing of the entire surface. SEEK MEDICAL ATTENTION.

#### SKIN

Wash contaminated areas with plenty of soap and water. A soothing ointment may be applied to irritated skin after thorough cleansing. Remove contaminated clothing and footwear and wash clothing before reuse. Discard footwear which cannot be decontaminated. SEEK MEDICAL ATTENTION.

#### INHALATION:

Remove to fresh bir. If breathing is difficult, have trained person administer oxygen. If breathing has stopped, give mouth-to-mouth resuscitation. GET IMMEDIATE MEDICAL ATTENTION.

#### INGESTION:

DO NOT INDUCE VOMITING. This material is not soluble. DO NOT GIVE FLUIDS. If spontaneous vomiting is inevitable, PREVENT ASPIRATION by keeping the victims head below the knees. GET IMMEDIATE MEDICAL ATTENTION. A qualified physician can perform gastric lavage only when the airway (trachea) has been secured to prevent aspiration. Further Medical Treatment: Following ingestion, adsorbents such as activated charcoal may be of value. Gastric lavage may be effective when performed by a physician within 4 hours of ingestion.

#### ROUTES OF EXPOSURE

## INHALATION:

Excessive inhalation may produce symptoms of central nervous system depression ranging from light-headedness, hausea and vomiting, to unconsciousness and ceath.

#### SKIN:

Mildly irritating. May produce a burning sensation. Prolonged or repeated contact may redden, roughen, and dry due to the removal of natural oils and may result in dermatitis. May be absorbed through the skin, although not expected to produce toxicity through this route.

#### EYE CONTACT:

Irritating to the eyes pain, tearing, and general inflammation.

#### INGESTION:

May cause irritation of the gastrointestinal tract with vomiting. If vomiting results in aspiration, chemical pneumonia could follow. Absorption through the gastrointestinal tract may produce symptoms of central nervous system depression ranging from light-headedness to unconsciousness.

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# II. HEALTH HAZARD INFORMATION (Continued)

# EFFECTS OF OVEREXPOSURE

# ACUTE:

Excessive inhalation or ingestion may produce symptoms of central nervous system depression ranging from light-headedness, to unconsciousness and death. Can cause headache, mental confusion, depression, fatigue, loss of appetite, nausea, vomiting, cough, loss of sense of balance and visual disturbances. Exposure of the eyes and skin may produce irritation. Animals exposed to high levels have shown cardiac sensitization.

#### CHRONIC:

Overexposure may result in liver and kidney damage. Prolonged or repeated skin contact may cause dermatitis.

#### TOXICOLOGY DATA:

Perchlorcethylens:
Acute Oral: LD50
Acute Inhalation: LD50

LD50 (rat) LD50 (rat) 3980 to 4680 mg/kg 5040 ppm, 34.2 mg/l for 8 hrs

NCI (DHEW-NIH Pub 77-813) stated that laboratory animals exposed to perchloroethylene at 80 to 150 ppm developed liver cancer in one study with no evidence of liver cancer in another study.

IARC - Lists this product as having inadequate evidence in humans, and sufficient evidence in animals to evaluate carcinogenicity. (Group 2B).

The National Toxicology Program (NTP 89-239), reports that PERC when administered via inhalation to rats and mice produced "clear evidence of carcinogenicity" in male rats (mononuclear cell leukemia and kidney tumors) and male and female mice (liver tumors.

The inhibitors in this product are not considered toxic nor carcinogenic by IARC, NTP, OSHA, or other and present no additional hazard.

#### SYNERGISTIC MATERIALS:

None known

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# III. IMPORTANT COMPONENTS

CAS NUMBER / NAME

127 184

Ethene, tetrachloro-

EXPOSURE LIMITS

PEL:25 ppm; 170 mg/m3, TWA TLV:25 ppm; 170 mg/m3, TWA, A3 STEL 100 ppm; 885 mg/m3

COMMON NAMES:

ETHYLENE TETRACHLORIDE PERCHLOROETHYLENE TETRACHLOROETHYLENE# 1, 1, 2, 2, -TETRACHLOROETHYLENE

Listed On (List Legend Below):

02 07 09 11 15 18 21

111660

1-Octene

EXPOSURE LIMITS

PEL:Not Established TLV:Not Established

COMMON NAMES:

Listed On(List Legend Below):

79016

Ethene, trichloro-

EXPOSURE LIMITS

PEL:50 ppm; 270 mg/m3, TWA STEL 200 ppm; 1080 mg/m3 TLV:50 ppm; 269 mg/m3, TWA, A5 STEL 100 ppm; 537 mg/m3

COMMON NAMES:

ETHYLENE TRICHLORIDE TRICHLORETHYLENE# TRICHLOROETHYLENE

Listed On (List Legend Below):

02 1: 13 18 21

# Chemical name used in the SARA Section 313 List of Toxic Chemicals (40 CFR - Section 372.65) if different from CAS name.

NIOSH (DHEW PUB. 78-112) recommends minimal exposure based on NCI study.

All components of this product that are required to be on the  $\ensuremath{\mathsf{TSCA}}$  Inventory are listed on the inventory.

LIST LEGEND

2 SARA TOXIC CHEM, SECTION 313 9 IARC GROUP 2A OR 28 CARCINOGEN 12 PA HAZARDOUS SUBSTANCE 15 PA SPECIAL & ENV HAZ SUBSTANCE 21 NJ SPECIAL HEALTH HAZ SUB

7 NTP "ANTPTD HUMAN CARCINOGENS"

11 CA PROP 65 - CARCINOGEN
13 PA ENVIROMENTAL HAZ SUBSTANCE
18 NY HAZARDOUS SUBSTANCES
23 NJ REQUIREMENT- 1% OR GREATER

VÇL

93-94

PERCENTAGE

PERCENTAGE

VOL 5.80-6.20

PERCENTAGE

WŤ 300PPM400PPM

VQL

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### IV. FIRE AND EXPLOSION DATA

FLASH POINT: None

AUTOIGNITION TEMPERATURE: No data

FLAMMABLE LIMITS IN AIR, % BY VOLUME- UPPER: Nonflammable UPPER: Nonflammable

# EXTINGUISHING MEDIA:

Fires involving this product are unlikely, but should one cour, it may be controlled by water spray, dry chemical, carbon occur. dioxide or foam.

#### SPECIAL FIRE FIGHTING PROCEDURES:

Pressure-demand, self-contained breathing apparatus should be provided for fire fighters in buildings or confined areas where this product is stored. Storage containers exposed to fire should be kept cool with a water spray in order to prevent pressure build-up

# UNUSUAL FIRE AND EXPLOSION HAZARD:

Nonflammable and nonexplosive under normal conditions of use. At high temperatures, this product decomposes to give off hydrogen chloride gas and small quantities of other toxic and irritating vapors such as phosgene. If storage containers are exposed to excessive heat, over-pressurization of the containers can result,

#### SENSITIVITY TO MECHANICAL IMPACT:

#### SENSITIVITY TO STATIC DISCHARGE:

None . .

#### V. SPECIAL PROTECTION

#### VENTILATION REQUIREMENTS:

Work in well ventilated areas. Maintain exposure level below 25 ppm. Where engineering controls are not feasible use adequate local exhaust ventilation where mist, spray, or vapor may be generated. The odor of perchloroethylene may indicate an air concentration in excess of 50 ppm.

# SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

### RESPIRATORY:

Use a NIOSH/MSHA approved respirator following manufacturer recommendations where vapor, mist or spray may be generated. Use supplied air respirator in positive pressure mode following ANSI Z117.1 for tank and confined space entry.

Wear chemical safety goggles, plus full face shield to protect against splashing when appropriate.

Solvent resistant gloves should be worn, such as Viton, polyvinyl alcohol, or equivalent. Gloves contaminated with product should be discarded.

# OTHER CLOTHING AND EQUIPMENT:

Protective clothing should be worn to minimize skin contact. Use standard work shoes; discard if shoes cannot be decontaminated. Store contaminated clothing in well ventilated cabinets or closed containers. Wash and dry contaminated clothing before reuse. Emergency shower and eyewash facility should be in close proximity.

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#### VI. PHYSICAL DATA

PHYSICAL STATE. Liquid

BOILING POINT @ 750 mm Hg: 120°C

FREEZING POINT: -28°C

VAPOR PRESSURE: 18 mm Hg @ 25°C

SPECIFIC GRAVITY (H20=1): 1.5

SOLUBILITY IN H2Q % BY WT: 0.015

APPEARANCE AND ODOR: Clear, colorless liquid with an ether-like odor

ODOR THRESHOLD (ppm): Not available

pH: Not available

% VOLATILES BY VOL.: 100

VAPOR DENSITY (Atr=1) 5.83

EVAPORATION RATE (Buac=1): 2.3 estimate

COEFFICIENT WATER/OIL DISTRIBUTION: Not available

#### VII. REACTIVITY DATA

## CONDITIONS CONTRIBUTING TO INSTABILITY:

Under normal conditions, the material is stable.

Avoid open flames, welding arcs, or other high temperature sources which induce thermal decomposition to irritating and corrosive HCl from solvent vapor. Strong UV light (eg. welding arc) can cause significant phospene to be generated.

#### INCOMPATIBILITY:

Avoid contacting this product with alkali metals, pure oxygen, open flames, and welding arcs. This product should not be used in long term contact with zinc or zinc alloys.

#### HAZARDOUS DECOMPOSITION PRODUCTS:

Involvement in fire or high temperatures forms hydrogen chloride and very small amounts of phosgene and chloride. Solvent decomposition occurs when catalyzed by metal chlorides which can be produced by reaction of HCL and metals in the system. In transformer applications where the fluid is used as a dielectric media, oxygen is excluded by use of an N2 pad which eliminates the potential of phosgene formation if arcing occurs.

# CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:

Material is not known to polymerize.

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# VIII. HANDLING AND STORAGE

# HANDLING AND STORAGE PRECAUTIONS:

Do not take internally. Do not breathe vapors.

Do not get in eyes, on skin, on clothing.

Use with adequate ventilation to maintain exposure level below 25 ppm. Perform personal monitoring to assess the exposure level. When handling, wear chemical splash goggles, protective clothing, and solvent resistant gloves.

Wash thoroughly after handling or contact. Do not eat, drink or smoke in areas where perchloroethylene is used.

Never enter a pit or tank without following safety procedures never alone, always with a life line, and always with a positive pressure supply of fresh air. Perchloroethylene vapors are heavier than air and will tend to collect in low areas. Avoid use in confined spaces. Areas of poor ventilation could contain concentration high enough to cause unconsciousness and death.

Use NIOSH/MSHA approved respirators following manufacturer's recommendations where vapors may be generated.

recommendations where vapors may be generated.

Avoid contact with pure oxygen, flames, pilot lights, hot glowing surfaces, welding arcs or alkali metals to prevent decomposition resulting in toxic and irritating vapors.
Avoid exposure to strong UV light, can cause generation of

phosaene.

Keep containers tightly closed and properly labeled, Store containers in cool, dry. ventilated place out of direct sunlight.

Under normal conditions this product can be stored satisfactory in mild steel without an interior lining. Dike storage tanks separately to contain 110% of tank volume. Vent indoor tanks to an outside location so escaping vapors will not contaminate any work areas.

# IX. ENVIRONMENTAL PROCEDURES

#### STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Leaks should be stopped. Spills should be contained and cleaned up immediately. Recovery and reuse of spilled product, rather than disposal, should be the ultimate goal of a clean up operation.

Evacuate unnecessary personnel. Prevent discharge or flushing to streams and sawers systems. Large spills should be removed by vacuum truck. Şmaller spills may be soaked up with compatible absorbent material (sand, diatomaceous earth, kitty litter, etc.) which should be placed in closed containers, labeled and stored which should be placed in closed containers, labeled and stored in a safe place outdoors to await proper disposal. Flush the spill area with water if the rinse water can be collected and placed in appropriate containers for proper disposal. Spills on areas other than pavement, e.g., dirt or sand, may be handled by removing the affected spils and placing in approved containers. People performing the clean up should have full protective equipment including a NICSH/MSHA approved positive pressure self-contained breathing apparatus.

According to 40 CFR 302 Table 302.4 (CERCLA), environmental releases of more than 100 pounds (approximately 7 gallons) of perchloroethylene must be reported to the National Response Center by calling 800-424-8802 (202-426-2675). Releases of over 100 pounds must also be reported to the State Emergency Response Commission and the Local Emergency Planning Committee (40 CFR 355.40). In addition, state and local regulations may have additional reporting requirements. Check with the proper state additional reporting requirements. Check with the proper state or local authorities.

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# IX. ENVIRONMENTAL PROCEDURES (Continued)

#### WASTE DISPOSAL METHOD:

Recovery and reuse of solvent, rather than disposal, should be the ultimate goal of handling efforts.

According to RCRA, disposal of perchloroethylene waste will require assignment of an EPA Hazardous Waste Number. Some examples are: perchloroethylene is classed as Hazardous Waste U210 (40CFR 261.33); spent perchloroethylene from degreasing operations and still bottoms from degreasing solvent stills are assigned Hazardous Waste Number F001 (40 CFR 261.31); spent solvent and still bottoms from solvent recovery operations are assigned Hazardous Waste Number F002 (40 CFR 261.31).

Always package, store, transport, and dispose of all waste and contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations. Shipments of waste materials containing perchloroethylene are subject to manifesting per applicable regulation. Appropriate disposal will depend on the nature of each waste material and should be done by a competent and properly permitted contractor.

#### X. ADDITIONAL INFORMATION

OSHA Standard 29CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Material Safety Data Sheet available to your employees.

To aid our customers in complying with regulatory requirements, SARA Title III hazard categories for this product are indicated in Section I. If the word "YES" appears next to any category, this product may be reportable by you under the requirements of 40 CFR Part 370. Please consult those regulations for details.

This product contains a toxic chemical or chemicals subject to the reporting requirements of SECTION 313 of TITLE III of the SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1985 and 40 CFR PART 372. (See Section III, List Legend 02)

State of California Safe Drinking Water and Toxic Enforcement Act Of 1986 (Proposition 65) :

WARNING: This product contains a chemical known to the State Of California to cause cancer.

Warning: This chemical is known to the State of California to cause cancer. See Section III.

California South Coast Air Quality Management District Rule 443.i; Maximum Volatile Organic Carbon (VOC) 1500 grams/liter VOC Vapor Pressure at 20°C 13 mm/Hg

WHMIS CLASSIFICATION D2A, D2B

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# XI. PREPARATION INFORMATION

For additional Non-Emergency health, safety, or environmental information telephone (716) 286-3081, or write to:

Occidental Chemical Corporation

Product Stewardship Department

360 Rainbow Boulevard South

Niagara Falls, NY 14302

For Emergencies: 24 HOUR EMERGENCY PHONE: 1-800-733-3665

To request an MSDS:

716-286-3400

This MSDS replaces MSDS M20544 dated 01/11/91.

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# WARNING LABEL INFORMATION

SIGNAL WORD: CAUTION

#### STATEMENT OF HAZARDS:

VOLATILE SOLVENT
PROLONGED BREATHING OF VAPOR CAN CAUSE DIZZINESS, LOSS OF
CONSCIOUSNESS, LIVER AND KIDNEY DAMAGE AND MAY RESULT IN DEATH.
CAUSES IRRITATION OF THE EYES, SKIN, AND RESPIRATORY TRACT.
MAY BE FATAL IF SWALLOWED.
POSSIBLE CANCER HAZARD - MAY CAUSE CANCER BASED ON ANIMAL DATA.
RISK OF CANCER DEPENDS ON DURATION AND LEVEL OF EXPOSURE.

#### PRECAUTIONARY STATEMENTS:

Do not take internally. Do not breathe vapors.

Do not get in eyes, on skin, on clothing.

Use with adequate ventilation to maintain exposure level below ppm. Perform personal monitoring to assess the exposure level. 25 ppm.

25 ppm. Perform personal monitoring to assess the exposure level. When handling, wear chemical splash goggles, protective clothing, and solvent resistant gloves.

Wash thoroughly after handling or contact. Do not eat, drink or smoke in areas where perchloroethylene is used.

Never enter a pit or tank without following safety procedures—never alone, always with a life line, and always with a positive pressure supply of fresh air. Perchloroethylene vapors are heavier than air and will tend to collect in low areas. Avoid use in confined spaces. Areas of poor ventilation could contain concentration high enough to cause unconsciousness and death.

Use NIOSH/MSHA approved respirators following manufacturer's recommendations where vapors may be generated.

recommendations where vapors may be generated.

Avoid contact with pure oxygen, flames, pilot lights, hot glowing surfaces, welding arcs or alkali metals to prevent decomposition resulting in toxic and irritating vapors.

Avoid exposure to strong UV light, can cause generation of phosgene.

Keep containers tightly closed and properly labeled. Store containers in cool, dry, ventilated place out of direct sunlight.

#### FIRST AID:

#### IN CASE OF CONTACT:

OBJECT IS TO FLUSH MATERIAL OUT IMMEDIATELY THEN SEEK MEDICAL ATTENTION. IMMEDIATELY flush eyes with large amounts of water for at least 15 minutes, holding lids apart to ensure flushing of the entire surface. SEEK MEDICAL ATTENTION.

#### FOR SKIN:

Wash contaminated areas with plenty of soap and water. A soothing ointment may be applied to irritated skin after thorough cleansing. Remove contaminated clothing and footwear and wash clothing before reuse. Discard footwear which cannot be decontaminated. SEEK MEDICAL ATTENTION.

#### IF INHALED:

Remove to fresh air. If breathing has stopped, give mouth-to-mouth resuscitation. If breathing is difficult, have trained person administer oxygen. GET IMMEDIATE MEDICAL ATTENTION.

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# WARNING LABEL INFORMATION (Continued)

# IF SWALLOWED;

DO NOT INDUCE VOMITING. This material is not soluble. DO NOT GIVE FLUIDS. If spontaneous vomiting is inevitable, PREVENT ASPIRATION by keeping the victims head below the knees. GET IMMEDIATE MEDICAL ATTENTION. A qualified physician can perform gastric lavage only when the airway (trachea) has been secured to prevent aspiration.

#### IN CASE OF:

#### SPILL OR LEAK:

Leaks should be stopped. Spills should be contained and cleaned up immediately. Evacuate unnecessary personnel. Prevent discharge or flushing to streams and sewers systems. Large spills should be removed by vacuum truck. Smaller spills may be soaked up with compatible absorbent material (sand, diatomaceous earth, kitty litter, etc.) which should be placed in closed containers, labeled and stored in a safe place outdoors to await proper disposal. People performing the clean up should have full protective equipment including a NIOSH/MSHA approved positive pressure self contained breathing apparatus.

According to 40 CFR 302 Table 302.4 (CERCLA), environmental releases of more than 100 pounds (approximately 7 gallons) of perchloroethylene must be reported to the National Response Center by calling 800-424-8802 (202-426-2675), Releases of over 100 pounds must also be reported to the State Emergency Response Commission and the Local Emergency Planning Committee (40 CFR 355.40). In addition, state and local regulations may have additional reporting requirements. Check with the proper state local authorities.

#### មាជ្យ

Fires involving this product are unlikely, but should one occur, it may be controlled by water spray, dry chemical, carbon dioxide or foam. Pressure-demand, self-contained breathing apparatus should be provided for fire fighters in buildings or confined areas where this product is stored. Storage containers exposed to fire should be kept cool with a water spray to prevent pressure build up. At high temperatures, product decomposes to give off hydrogen chloride gas and small quantities of other toxic and irritating vapors such as phospene.

# HANDLING AND STORAGE:

Under normal conditions, this product may be stored satisfactorily in mild steel, without an interior lining. Dike storage tanks separately to contain 110% of tank volume. Vent indoor tanks to an outside location so escaping vapors will not contaminate any work areas.

#### DISPOSAL:

According to RCRA, disposal of perchloroethylene waste will require assignment of a EPA Hazardous Waste Number. Always package, store, transport, and dispose of all waste and contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations. Shipments of waste materials containing perchloroethylene are subject to manifesting per applicable regulation. Appropriate disposal will depend on the nature of each waste material and should be done by a competent and properly permitted contractor.

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# WARNING LABEL INFORMATION (Continued)

INFORMATION REQUIRED BY FEDERAL, STATE OR LOCAL REGULATIONS:

This product contains:

NAME

CAS# 127184

Ethene, tetrachloro-

111660

1-Octene

79016

Ethene, trichloro-

HMIS RATING SYSTEM: HEALTH 2\* FLAMMABILITY O REACTIVITY 0

FOR INDUSTRIAL USE ONLY

LABEL

123M20544

**EXHIBIT** F